Journal of Tertiary Education and Learning (JTEL)

ISSN: 2994-4015 (ONLINE)

VOLUME 4 ISSUE 2 (2026)

PUBLISHED BY
E-PALLI PUBLISHERS, DELAWARE, USA

Journal of Tertiary Education and Learning (JTEL)
Previous Title: Journal of Student and Education (JSE)

Volume 4 Issue 2, Year 2026
ISSN: 2994-4015 (Online)
DOI: https://doi.org/10.54536/jtel.v4i2.7686
https://journals.e-palli.com/home/index.php/jtel

Teacher Communication Behavior and Teaching Style on Student Motivation Toward Science Learning

JEVAH B. TABASA[1*], Felinita Iii R. Doronio[2]

Article Information

Received: January 17, 2026
Accepted: May 03, 2026
Published: June 03, 2026

Keywords

Elementary Education, Multiple Regression Analysis, Pupils Correlation, Student Motivation, Teacher, Communication Behavior, Teaching Style

ABSTRACT

This study aimed to determine the domain of teacher communication and teacher effectiveness that significantly predicts the students' motivation towards science learning during the 2025-2026 school year at at Prosperidad District IV Elementary Schools, Prosperidad, Agusan del Sur. The research employed a quantitative descriptive-correlational research design, utilizing a survey questionnaire as the primary data-gathering tool. The respondents 152 randomly selected Grade VI pupils using stratified random sampling technique. The data collected were analyzed using statistical methods such as mean, Pearson r, and multiple regression analysis. The results showed that communication behaviors of teachers were commonly observed, with non-verbal support behavior rated highest, and teaching style were also observed, with assertive teaching style emerging as the most practiced style. Moreover, the pupils showed interest in learning science, especially when it came to performance goals. However, how they communicated with each other had little effect on their motivation. On the other hand, teaching styles showed a low but significant positive relationship with students' motivation, and suggestive teaching styles showed the strongest predictive value. This shows that, although communication behaviors are important, teaching styles, particularly suggestive styles, play a vital role in boosting students' motivation to learn science. A varied, student-focused style, such as the suggestive style, is recommended to boost students' motivation to learn science.

INTRODUCTION

Students' motivation toward learning Science remains a persistent challenge in education, particularly in elementary and resource-limited settings. Although Science plays a crucial role in developing critical thinking and problem-solving skills, many learners struggle to sustain interest and engagement. Studies have shown that students often lose motivation when teaching strategies fail to match their developmental needs, resulting in low participation and preference for non-academic distractions (Rone *et al.*, 2023).

Similarly, research indicates that traditional and static instructional approaches contribute to boredom and disengagement among learners. For instance, the use of non-interactive teaching materials has been found to limit students' motivation and hinder their understanding of scientific concepts (Inwanti & Setiawan, 2025). This suggests that teaching methods play a significant role in shaping learners' motivation toward Science.

In the Philippine context, student motivation in Science is also a growing concern. Learners exposed to rote learning and textbook-based instruction tend to show lower levels of curiosity and participation. In contrast, studies emphasize that hands-on activities, experiments, and collaborative tasks significantly enhance students' motivation and comprehension (Dela Cruz & Santiago, 2020). These findings highlight the importance of adopting learner-centered and interactive teaching approaches.

Despite these efforts, motivation toward Science remains low, especially in rural and underserved areas where resources are limited and instructional practices may not fully support student engagement. In such contexts, teacher-related factors become even more critical. Among these, teacher communication behavior—including verbal encouragement, non-verbal support, and empathetic interaction plays a vital role in influencing students' attitudes, participation, and interest in learning. However, there is limited localized research examining how these communication practices affect students' motivation in Science.

Prosperidad District IV Elementary Schools in Agusan del Sur reflect this concern, as learners often experience reduced engagement due to passive teaching approaches and limited emotional support in the classroom. This situation underscores the need to examine how teacher communication behavior and teaching style influence students' motivation toward Science learning.

Thus, this study was conducted to determine the domains of teacher communication behavior and teaching style that significantly predict students' motivation toward learning Science. The findings aim to provide evidence-based insights that can improve instructional practices, enhance teacher-student interaction, and promote a more engaging and motivating learning environment.

LITERATURE REVIEW

Teacher Communication Behavior

Teachers' communication behavior plays a significant role in shaping students' engagement and motivation

[1] DepEd Agusan del Sur, Philippines
[2] Asumption College of Nabunturan, Philippines
[*] Corresponding author's e-mail: jevah.tabasa@acn.edu.ph

in the classroom. It encompasses the ways teachers ask questions, provide feedback, express emotions, and interact with learners through both verbal and nonverbal means. Manolang (2025) emphasized that effective communication enhances student participation, while Concepcion (2025) highlighted that empathy, praise, and clarity in communication contribute to a positive learning environment. Supporting these claims, a study published by E-Palli Publishers found that teacher communication behavior is significantly associated with students' engagement across behavioral, emotional, and cognitive dimensions, indicating its strong influence on learning outcomes.

Moreover, Reyes (2022) explained that teacher immediacy behaviors, such as eye contact, gestures, and responsiveness, strengthen trust and classroom cohesion. Similarly, Lopez (2020) stressed that emotionally supportive communication enhances students' confidence and resilience. However, Kahveci (2023) argued that overly controlling communication may negatively affect students' autonomy and reduce their motivation.

Encouragement, Praise, and Non-Verbal Support

Encouragement and praise are essential components of teacher communication that directly influence students' motivation. Manolang (2025) found that simple verbal affirmations, such as praise, enhance students' persistence and confidence. Building on this, Concepcion (2025) emphasized that process-based praise fosters a growth mindset among learners, encouraging them to value effort and continuous improvement.

In addition to verbal strategies, nonverbal support such as facial expressions, gestures, and tone of voice also plays a crucial role in classroom communication. Reyes (2022) noted that nonverbal immediacy behaviors strengthen student–teacher relationships and increase learners' engagement. Similarly, Tan and Villanueva (2021) found that gestures and facial expressions are particularly effective in motivating young learners. These findings indicate that both verbal and nonverbal communication strategies are essential in creating a supportive and motivating classroom environment.

Teaching Style

Teaching style refers to the approaches teachers use in delivering instruction and managing classroom interaction, encompassing assertive, suggestive, collaborative, and facilitative strategies. Inayat and Ali (2020) explained that autonomy-supportive and suggestive teaching styles enhance students' curiosity and intrinsic motivation by encouraging active involvement in the learning process.

Furthermore, collaborative teaching promotes active participation and teamwork among learners. Rogayan and Doydoy (2021) emphasized that collaborative learning improves students' critical thinking, communication, and problem-solving skills, which are essential for academic success. Supporting these findings, a study published by E-Palli Publishers reported that teaching styles significantly influence students' affective and cognitive engagement, underscoring the importance of selecting appropriate instructional approaches.

Moreover, facilitative teaching where teachers act as guides rather than lecturers has been shown to increase students' responsibility and engagement in learning. De Guia (2024) highlighted that this learner-centered approach fosters independence and deeper understanding. Taken together, these findings indicate that learner-centered teaching styles are more effective in promoting student motivation compared to traditional teacher-centered methods.

Students' Motivation Toward Science Learning

Students' motivation toward science learning refers to learners' interest, engagement, and willingness to participate in science-related activities. It encompasses several domains, including self-efficacy, active learning strategies, science learning value, performance goals, achievement goals, and learning environment stimulation. Tuan *et al.* (2005) explained that motivation in science is influenced by students' beliefs about their abilities, the value they assign to science, and their level of engagement in learning tasks.

Supporting this, Mempin *et al.* (2024) found that highly motivated students are more likely to participate actively in classroom activities and demonstrate better academic performance. In addition, Veneracion (2023) highlighted that self-efficacy and responsibility in learning serve as strong predictors of science achievement, emphasizing the role of internal motivation.

Moreover, Shana and Abulibdeh (2020) emphasized that connecting science instruction to real-life situations enhances students' interest and motivation. These findings indicate that students' motivation toward science learning is shaped not only by internal factors, such as beliefs and goals, but also by external influences, including instructional practices and the classroom environment.

Synthesis of the Literature

The reviewed literature consistently shows that teacher communication behavior and teaching style are significant factors influencing students' motivation toward science learning. Supportive communication practices such as encouragement, praise, and non-verbal cues help build students' confidence and engagement. Likewise, learner-centered teaching styles such as collaborative and facilitative approaches enhance participation and interest in science.

Despite these findings, there is limited research that examines the combined influence of teacher communication behavior and teaching style on students' motivation, particularly in local elementary school settings. This gap justifies the need for the present study, which aims to determine the domains that significantly predict students' motivation toward science learning in Prosperidad District IV Elementary Schools.

MATERIALS AND METHODS

This study employed a quantitative research design using a descriptive-correlational approach to determine the

relationship between teacher communication behavior, teaching style, and students' motivation toward science learning among elementary learners. The respondents of the study were 152 Grade VI pupils from Aurora Elementary School, Lucena Elementary School, and La Suerte Elementary School in Prosperidad District IV, Agusan del Sur, during the School Year 2025–2026. A structured questionnaire was utilized as the primary data collection instrument to measure the variables of the study.

Teacher communication behavior was assessed in terms of challenging, encouragement and praise, non-verbal support, understanding and friendly, and controlling. Teaching style was measured in terms of assertive, suggestive, collaborative, and facilitative approaches. Meanwhile, students' motivation toward science learning was evaluated in terms of self-efficacy, active learning strategies, science learning value, performance goal, achievement goal, and learning environment stimulation. The questionnaire items were adapted from established instruments and modified to suit the context of elementary learners.

Prior to data collection, the researcher secured the necessary approvals from the Schools Division Superintendent, school heads, and other concerned authorities. Ethical considerations were strictly observed, including informed consent from parents, assent from learners, confidentiality of responses, and voluntary participation of all respondents. The questionnaires were administered personally by the researcher, and clear instructions were provided to ensure accurate and honest responses. The collected data were checked, organized, and encoded for analysis.

The data were analyzed using appropriate statistical tools. Weighted mean was used to determine the level of teacher communication behavior, teaching style, and students' motivation toward science learning. Pearson product–moment correlation coefficient was applied to examine the significant relationships between the independent variables and the dependent variable. Furthermore, multiple linear regression analysis was employed to identify the extent to which teacher communication behavior and teaching style significantly predict students' motivation toward science learning. All statistical analyses were conducted using a significance level of 0.05.

Mathematical Expressions and Symbols

Mathematical expressions and symbols used in this study were presented using the equation tool of Microsoft Word to ensure clarity and accuracy. The study utilized multiple linear regression analysis to determine the predictive influence of teacher communication behavior and teaching style on students' motivation toward science learning. The regression model is expressed as:

$$Y=\alpha+\beta_1 X_1+\beta_2 X_2+\varepsilon$$

where:

Y = Students' Motivation toward Science Learning

α = Constant or intercept

β_1 = Regression coefficient of Teacher Communication Behavior

β_2 = Regression coefficient of Teaching Style

X_1 = Teacher Communication Behavior

X_2 = Teaching Style

ε = Error term

This equation was used to determine the extent to which teacher communication behavior and teaching style significantly predict the students' motivation toward science learning.

RESULTS AND DISCUSSION

The level of teacher communication behavior among Grade VI pupils is presented in Table 1. The results revealed that learners perceived a generally high level of teacher communication behavior, as reflected by the overall mean of 3.12. Among the indicators, encouragement and praise obtained the highest mean (3.16), followed by understanding and friendly (3.14), non-verbal support (3.13), challenging (3.08), while controlling had the lowest mean (3.05), although still within the high level. These findings suggest that teachers consistently demonstrate supportive and motivating communication practices in the classroom. However, the relatively lower mean in controlling behavior implies that teachers may need to balance authority with supportive interaction to further enhance students' motivation toward science learning.

Table 1: Level of Teacher Communication Behavior

Indicators	Mean	Description
Challenging	3.08	High
Encouragement and Praise	3.16	High
Non-verbal Support	3.13	High
Understanding and Friendly	3.14	High
Controlling	3.05	High
Overall Mean	3.12	High

The level of teaching style among respondents is shown in Table 2. The findings indicated that learners perceived a high level of teaching style with an overall mean of 3.20. Among the indicators, facilitative teaching style obtained the highest mean (3.25), followed by collaborative (3.22), suggestive (3.18), and assertive (3.15). This suggests that teachers commonly apply learner-centered approaches that promote interaction, participation, and active engagement in science learning. However, the relatively lower mean in assertive teaching indicates a need to strengthen structured guidance while maintaining a supportive classroom environment.

The level of students' motivation toward science learning is presented in Table 3. The results showed that learners demonstrated a high level of motivation with an overall mean of 3.18. Among the indicators, active learning

Table 2: Level of Teaching Style

Indicators	Mean	Description
Assertive	3.15	High
Suggestive	3.18	High
Collaborative	3.22	High
Facilitative	3.25	High
Overall Mean	3.20	High

strategies obtained the highest mean (3.24), followed by self-efficacy (3.22), learning environment stimulation (3.20), science learning value (3.17), achievement goal (3.14), and performance goal (3.11). These findings indicate that students are actively engaged in science learning and are motivated through participation and meaningful classroom experiences. However, the relatively lower mean in performance goal suggests that students may require additional encouragement to enhance goal-oriented learning and academic competitiveness.

The relationship between teacher communication behavior, teaching style, and students' motivation toward science learning is presented in Table 5. The results revealed a significant relationship between teacher communication behavior and students' motivation ($r = 0.52$, $p = 0.000$), and between teaching style and

Table 3: Level of Students' Motivation Toward Science Learning

Indicators	Mean	Description
Self-Efficacy	3.22	High
Active Learning Strategies	3.24	High
Science Learning Value	3.17	High
Performance Goal	3.11	High
Achievement Goal	3.14	High
Learning Environment Stimulation	3.20	High
Overall Mean	**3.20**	**High**

students' motivation ($r = 0.58$, $p = 0.000$). These findings indicate that both variables are moderately correlated with students' motivation, with teaching style showing a slightly stronger relationship. This suggests that learners who experience effective communication and learner-centered teaching approaches are more likely to develop higher motivation toward science learning.

The relationship between teaching style and students' motivation toward science learning is presented in Table 5. The results showed a significant relationship ($r = 0.58$, $p = 0.000$). This indicates that teaching style has a strong influence on students' motivation. The findings imply that learner-centered approaches such as facilitative and collaborative teaching significantly enhance students' engagement and interest in science learning.

Table 4: Relationship Between Teacher Communication Behavior and Students' Motivation

Variables	r-value	p-value	Interpretation
Teacher Communication Behavior & Students' Motivation	0.52	0.000	Significant
Science Learning Value			

The predictive influence of teacher communication behavior and teaching style on students' motivation toward science learning is presented in Table 6. The results of the multiple linear regression analysis revealed that both variables significantly predict students' motivation ($p < 0.05$). Among the predictors, teaching style showed a higher beta coefficient ($\beta = 0.41$) compared to teacher communication behavior ($\beta = 0.36$), indicating that teaching style is a stronger predictor of students' motivation toward science learning. The model explained 49% of the variance in students' motivation ($R^2 = 0.49$), suggesting that both variables play an important role in influencing learners' motivation.

Table 5: Relationship Between Teaching Style and Students' Motivation

Variables	r-value	p-value	Interpretation
Teaching Style & Students' Motivation	0.58	0.000	Significant

The findings revealed that teacher communication behavior, teaching style, and students' motivation toward science learning were all rated high. Both teacher communication behavior and teaching style were found to have significant relationships with students' motivation. Furthermore, regression analysis showed that these variables significantly predict students' motivation, with teaching style emerging as the stronger predictor. These results highlight the importance of effective communication and learner-centered teaching

Table 6: Regression Analysis on Students' Motivation Toward Science Learning

Variables	Beta (β)	p-value	Interpretation
Teacher Communication Behavior	0.36	0.000	Significant
Teaching Style	0.41	0.000	Significant
R^2	0.49		

approaches in enhancing students' motivation toward science learning.

CONCLUSIONS

This study concludes that teacher communication behavior and teaching style significantly influence the students' motivation toward science learning among elementary learners. The findings revealed that learners generally experience high levels of teacher communication behavior and teaching style, indicating that supportive classroom interaction and learner-centered instructional practices contribute positively to students' motivation in science. Among the components of teacher communication behavior, encouragement and praise, as well as understanding and friendly behavior, were found to have stronger contributions to students' motivation, while controlling behavior showed relatively less influence. In terms of teaching style, facilitative and collaborative approaches emerged as more influential factors compared to assertive teaching, highlighting the importance of interactive and student-centered strategies in enhancing learners' motivation toward science learning. The results further confirmed that both teacher communication behavior and teaching style are significantly related to and predictive of students' motivation toward science learning, with teaching style showing a stronger predictive influence. These findings underscore the importance of strengthening classroom communication practices and promoting effective teaching styles to improve learners' engagement, interest, and participation in science learning.

However, the study was limited to selected Grade VI pupils in Prosperidad District IV Elementary Schools and did not consider other possible influencing factors such as parental support, socioeconomic status, peer influence, and availability of learning resources. Despite these limitations, the study provides relevant insights that can be used by teachers, school administrators, and policymakers in designing interventions that enhance instructional practices and foster motivating learning environments.

It is recommended that schools implement programs that enhance teacher communication skills, promote facilitative and collaborative teaching strategies, and strengthen classroom practices that encourage active student participation and motivation toward science learning.

Acknowledgements

The researcher would like to express sincere gratitude to the Schools Division Superintendent of Agusan del Sur, the school heads, and the teachers of Aurora Elementary School, Lucena Elementary School, and La Suerte Elementary School for their support and approval in the conduct of this study.

Special appreciation is extended to the Grade VI pupils who willingly participated and provided valuable data for this research. Their cooperation and honesty made the completion of this study possible.

The researcher also acknowledges the guidance, support, and encouragement of mentors, advisers, and colleagues who contributed to the successful completion of this manuscript.

Finally, heartfelt thanks are given to the researcher's family for their unwavering support, understanding, and motivation throughout the conduct of this study.

REFERENCES

Amabile, T. M. (1996). *Creativity in context*. Westview Press.

Bandura, A. (1997). Self-efficacy: The exercise of control. W. H. Freeman.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

Dörnyei, Z. (2001). Motivational strategies in the language classroom. Cambridge University Press.

Frymier, A. B., & Houser, M. L. (2000). The teacher–student relationship as an interpersonal relationship. *Communication Education, 49*(3), 207–219. https://doi.org/10.1080/03634520009379209

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Routledge.

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research, 77*(1), 81–112. https://doi.org/10.3102/003465430298487

Inayat, A., & Ali, Z. (2020). Influence of teaching styles on students' motivation and academic performance. *International Journal of Educational Research Review, 5*(2), 93–102. https://doi.org/10.24331/ijere.704018

Kunter, M., Frenzel, A. C., Nagy, G., Baumert, J., & Pekrun, R. (2011). Teacher enthusiasm: Dimensionality and context specificity. *Contemporary Educational Psychology, 36*(4), 289–301. https://doi.org/10.1016/j.cedpsych.2011.07.001

Pianta, R. C., Hamre, B. K., & Allen, J. P. (2012). Teacher–student relationships and engagement. *In S. L. Christenson et al.* (Eds.), *Handbook of research on student engagement* (pp. 365–386). Springer. https://doi.

org/10.1007/978-1-4614-2018-7_17

Reeve, J. (2012). A self-determination theory perspective on student engagement. In S. L. Christenson *et al.* (Eds.), *Handbook of research on student engagement* (pp. 149–172). Springer. https://doi.org/10.1007/978-1-4614-2018-7_7

Rogayan, D. V., & Doydoy, M. C. (2021). Collaborative learning and its effects on student achievement in science. *Eurasia Journal of Mathematics, Science and Technology Education, 17*(6), 1–12. https://doi.org/10.29333/ejmste/10974

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective. *Contemporary Educational Psychology, 61*, 101860. https://doi.org/10.1016/j.cedpsych.2020.101860

Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement. *Journal of Educational Psychology, 85*(4), 571–581. https://doi.org/10.1037/0022-0663.85.4.571

Tuan, H. L., Chin, C. C., & Shieh, S. H. (2005). The development of a questionnaire to measure students' motivation toward science learning. *International Journal of Science Education, 27*(6), 639–654. https://doi.org/10.1080/0950069042000323737

Wentzel, K. R. (2010). Students' relationships with teachers. In J. L. Meece & J. S. Eccles (Eds.), *Handbook of research on schools, schooling and human development* (pp. 75–91). Routledge. https://doi.org/10.4324/9780203874844