Original Article

Differentiated Instruction and Classroom Learning Environment as Determinants of Student Motivation

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Abstract

This study examined the significant influence of differentiated instruction and classroom learning environment on student motivation among public elementary school students in Bansalan East District, Davao del Sur. A quantitative non-experimental descriptive-correlational design was employed, and data were collected using adapted survey questionnaires administered in public elementary schools. Descriptive results showed that differentiated instruction, classroom learning environment, and student motivation were all rated very extensive. Pearson correlation analysis revealed a high positive relationship between differentiated instruction and student motivation and between classroom learning environment and student motivation. Multiple regression analysis further indicated that differentiated instruction and classroom learning environment significantly predicted student motivation, with differentiated instruction showing a slightly stronger standardized coefficient than classroom learning environment; the combined model explained 67% of the variance in student motivation. The findings underscore the importance of strengthening differentiated instructional practices and maintaining a supportive classroom learning environment to enhance student motivation, engagement, and educational quality.

Keywords: classroom learning environment, correlational study, differentiated instruction, public elementary schools, student motivation

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1. Introduction

Student motivation is a central driver of engagement, persistence, and classroom participation, and it strongly influences how learners respond to academic tasks. In elementary school settings, motivation is especially important because it shapes early study habits, effort regulation, and willingness to participate in teacher-guided and peer-based learning activities. Howard et al. (2021), in a meta-analysis grounded in self-determination theory, showed that different types of student motivation are consistently associated with important academic and psychosocial outcomes, which supports the continued use of motivation as a key educational outcome variable. Bureau et al. (2022) further showed through meta-analysis that teacher-related antecedents, especially autonomy-supportive conditions, are key pathways to students' autonomous motivation.

Motivation develops within classroom conditions created by teaching practices and the broader learning environment. Rusticus et al. (2023) described the learning environment as a psychological, social, cultural, and physical setting that influences motivation and success, while Ye (2024) reviewed evidence showing that classroom environment features are closely linked with student engagement. These perspectives suggest that motivation is shaped not only by individual characteristics but also by the instructional and environmental conditions that students experience daily. In addition, Ahn, Chiu, and Patrick (2021) demonstrated that student-perceived teacher need-supportive practices are associated with student motivation through need satisfaction.

Differentiated instruction is particularly relevant in diverse elementary classrooms because it emphasizes adapting content, process, product, and assessment to learner readiness, interests, and profiles. Gheyssens et al. (2020) noted that implementing differentiated instruction requires complex professional judgment and sustained support, while Langelaan et al. (2024) highlighted the need to understand differentiated instruction as a coherent set of teacher competences rather than a collection of isolated techniques. When these practices are implemented consistently, they may improve students' sense of relevance, competence, and participation, which are central to motivation.

Classroom learning environment can also shape how students interpret instructional experiences. A classroom marked by positive relationships, supportive personal development opportunities, and clear structure may strengthen students' confidence and willingness to engage in tasks, including differentiated activities. Conversely, even well-designed differentiated lessons may have weaker motivational effects if classroom conditions are unsupportive, disorganized, or emotionally unsafe. This makes it important to examine differentiated instruction and classroom learning environment as simultaneous determinants of motivation rather than as separate variables considered in isolation.

The local context of public elementary schools in Bansalan East District, Davao del Sur, provides a practical setting for this inquiry. The thesis text identified concerns related to student motivation and the need for more responsive and supportive

classroom practices. In addition, OECD reports on PISA 2022 continue to underscore the broader challenge of improving learning quality and engagement in education systems facing persistent achievement gaps and contextual inequalities (OECD, 2023a, 2023b, 2023c). These concerns strengthen the rationale for examining classroom-level determinants of motivation in public elementary schools.

This study therefore examined differentiated instruction and classroom learning environment as determinants of student motivation. Specifically, it determined the levels of differentiated instruction, classroom learning environment, and student motivation; tested the significant relationship of differentiated instruction with student motivation; tested the significant relationship of classroom learning environment with student motivation; and examined the significant combined influence of differentiated instruction and classroom learning environment on student motivation.

2. Methodology

This study employed a quantitative non-experimental research design using a descriptive-correlational approach. The correlational design was appropriate because the study aimed to determine the levels of key variables and to test naturally occurring relationships and predictive influence among differentiated instruction, classroom learning environment, and student motivation without manipulating the classroom context. Such designs are commonly used in school-based research when variables are examined in real educational settings.

The study was conducted in public elementary schools in Bansalan East District, Division of Davao del Sur. The respondents were 138 teachers from public elementary schools. This sample size was derived using Slovin's formula with a 5% margin of error.

Data were collected using adapted survey questionnaires measuring three variables. Differentiated instruction was measured across six domains: student interest, assessment, lesson planning, content, process, and product. Classroom learning environment was measured across three domains: relationships, personal development, and system maintenance and system change. Student motivation was measured across six domains: self-efficacy, active learning strategies, task learning value, performance goal, achievement goal, and learning environment stimulation. The instruments were adapted, expert-validated, and pilot-tested before final administration.

Ethical procedures including ethics review, informed consent, voluntary participation, confidentiality safeguards, and secure data handling, were followed. These measures are consistent with standard educational research ethics and support the integrity of survey-based research involving school participants. The study further practiced anonymization and secure storage procedures to protect respondent privacy.

For statistical treatment, mean and standard deviation were used to determine the level of differentiated instruction, classroom learning environment, and student motivation. Pearson product-moment correlation was used to test the relationships between differentiated instruction and student motivation and between classroom learning environment and student motivation. Multiple linear regression was then used to determine the significant combined influence of differentiated instruction and classroom learning environment on student motivation at the 0.05 level of significance.

3. Results

Table 1 shows that differentiated instruction was rated very extensive overall (M = 4.29, SD = 0.78). Among the six domains, content and process recorded the highest means (both M = 4.33), followed by assessment (M = 4.31), product (M = 4.30), lesson planning (M = 4.24), and student interest (M = 4.22). These ratings indicate consistently high manifestation of differentiated instructional practices across the reported domains.

Table 1. Summary of the extent of differentiated instruction among public elementary school teachers.

Domain	Mean	SD	Descriptive level
Student Interest	4.22	0.80	Very Extensive
Assessment	4.31	0.77	Very Extensive
Lesson Planning	4.24	0.79	Very Extensive
Content	4.33	0.78	Very Extensive
Process	4.33	0.79	Very Extensive
Product	4.30	0.78	Very Extensive
Overall	4.29	0.78	Very Extensive

In Table 2, classroom learning environment was also rated very extensive overall (M = 4.30, SD = 0.85). The highest domain mean was observed for system maintenance and system change (M = 4.33), followed by relationships (M = 4.30) and personal development (M = 4.28). The pattern suggests that students perceived their classroom environments as supportive, organized, and conducive to learning.

Table 2. Summary of the extent of classroom learning environment among public elementary school students.

Domain	Mean	SD	Descriptive level
Relationships	4.30	0.81	Very Extensive
Personal Development	4.28	0.87	Very Extensive
System Maintenance & System Change	4.33	0.87	Very Extensive
Overall	4.30	0.85	Very Extensive

Student motivation was rated very extensive overall (M = 4.29, SD = 0.75) based on Table 3. Task learning value obtained the highest mean (M = 4.33), while active learning strategies and learning environment stimulation both registered M = 4.30. All six domains remained within the very extensive range, indicating a generally strong motivational profile among the respondents.

Table 3. Summary of the extent of student motivation among public elementary school students.

Domain	Mean	SD	Descriptive level
Self-Efficacy	4.26	0.80	Very Extensive
Active Learning Strategies	4.30	0.78	Very Extensive
Task Learning Value	4.33	0.80	Very Extensive
Performance Goal	4.24	0.86	Very Extensive
Achievement Goal	4.25	0.82	Very Extensive
Learning Environment Stimulation	4.30	0.81	Very Extensive
Overall	4.29	0.75	Very Extensive

Table 4 presents correlation results between the study variables. Pearson correlation analysis showed a high positive and statistically significant relationship between differentiated instruction and student motivation ($r = 0.82$, $R2 = 0.67$, $p = 0.000$). The null hypothesis on the absence of a significant relationship between these variables was rejected. A high positive and statistically significant relationship was also found between classroom learning environment and student motivation ($r = 0.80$, $R2 = 0.64$, $p = 0.000$). The corresponding null hypothesis was rejected, indicating that more positive classroom learning environments were associated with higher levels of student motivation.

Table 4. Correlation results.

Variables	r	p-value
Differentiated instruction and student motivation	0.82	0.000
Classroom learning environment and student motivation	0.80	0.000

Multiple regression analysis demonstrated that both differentiated instruction and classroom learning environment significantly predicted student motivation (Table

5). Differentiated instruction yielded a standardized coefficient of 0.82 (t = 55.55, p = 0.000), while classroom learning environment yielded a standardized coefficient of 0.76 (t = 40.51, p = 0.000). The combined model was significant (R = 0.80, R2 = 0.67, F = 90.11, p = 0.000), indicating that the two predictors jointly explained 67% of the variance in student motivation.

Table 5. Regression results predicting student motivation.

Variables	Coefficient	t-stat	p-value	Remarks
Differentiated Instruction	0.82	55.55	0.000	Significant
Classroom Learning Environment	0.76	40.51	0.000	Significant

4. Discussion

The findings indicate that differentiated instruction and classroom learning environment are both strong determinants of student motivation in the study context. The high correlations and significant regression coefficients suggest that motivation is shaped not only by students' internal dispositions but also by classroom-level practices and conditions. This pattern is consistent with Howard et al. (2021), who demonstrated that motivational processes are strongly linked with educational outcomes and are influenced by contextual factors that support competence, value, and engagement. This pattern is also compatible with Ahn et al. (2021), whose findings linked teacher need-supportive practices with student motivation.

The descriptive results on differentiated instruction show that respondents perceived teachers' differentiated practices to be very extensive across all six domains, with content and process emerging as the strongest areas. This pattern suggests that teachers were perceived to be adjusting instructional pacing, materials, and activity structures in ways that support learner variability. Gheyssens et al. (2020) and Langelaan et al. (2024) both emphasize that differentiated instruction requires integrated teacher competences and sustained implementation effort, and the present findings suggest that these practices were visible to respondents at a high level.

The classroom learning environment results likewise indicate a highly positive environment, particularly in the domain of system maintenance and system change. This may reflect the importance of structure, order, and teacher leadership in supporting student engagement in elementary classrooms. Rusticus et al. (2023) highlighted the motivational importance of positive learning environments, and Ye (2024) similarly synthesized evidence showing that classroom environment shapes engagement. The strong correlation found in this study supports the view that classroom environment is not a peripheral variable but a core contributor to motivated learning behavior. Evidence on classroom emotional climate and teacher-student relationships also supports the motivational importance of classroom climate variables in school settings (McLure et al., 2022).

Student motivation was also rated very extensive across all six domains, with task learning value obtaining the highest mean. This pattern suggests that students

generally saw learning tasks as meaningful and worthwhile, which is important because task value is a key mechanism in motivational theory and in classroom participation. When learners perceive classroom tasks as relevant and manageable, they are more likely to persist, participate actively, and use learning strategies. The co-occurrence of high differentiated instruction, positive classroom environment, and high motivation in the present results is therefore theoretically coherent.

The correlational findings show that differentiated instruction had a slightly stronger relationship with student motivation than classroom learning environment, although both were high and statistically significant. This may indicate that while environmental conditions matter, students' motivation in this context was especially responsive to what teachers do instructionally, including differentiation in planning, assessment, content delivery, and learning processes. At the same time, the high correlation for classroom learning environment suggests that instructional responsiveness and environmental support likely work together in practice rather than operating independently.

The regression model provides stronger evidence for this combined interpretation. Both differentiated instruction and classroom learning environment remained significant predictors, and the model explained 67% of the variance in student motivation. This is a substantial proportion for school-based educational research and indicates that these classroom-level factors are highly consequential in the sampled setting. However, the unexplained variance also suggests that other influences, such as family support, prior achievement, peer culture, and individual self-regulation, may contribute to motivation and should be considered in future studies.

Practically, the findings support an integrated school improvement approach. Efforts to increase student motivation may be more effective when schools simultaneously strengthen differentiated instructional practices and cultivate supportive classroom environments. This includes improving formative assessment practices, varied learning tasks, student-responsive pacing, classroom relationships, and organized classroom systems. Such improvements also depend on teacher support and working conditions, which aligns with broader evidence linking teacher well-being and instructional sustainability (Dreer, 2023; Aziku et al., 2024).

Overall, the study contributes local quantitative evidence showing that differentiated instruction and classroom learning environment are both strongly associated with and predictive of student motivation in public elementary schools. The results are directly relevant to school leaders and district planners seeking classroom-based strategies to improve engagement and learning quality.

5. Conclusion

The study found that differentiated instruction, classroom learning environment, and student motivation were all rated very extensive in the participating public elementary schools. Both differentiated instruction and classroom learning

environment had high positive and statistically significant relationships with student motivation, and both significantly predicted student motivation in the regression model. Differentiated instruction showed a slightly stronger predictive effect, but the findings indicate that student motivation is best strengthened through the combined influence of responsive teaching practices and a supportive classroom learning environment. The results support school-level interventions that integrate differentiated instruction enhancement and classroom climate improvement to sustain student motivation and engagement.

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Conflict of Interest Statement

The authors declare no conflict of interest.

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