

Learning Styles and Teaching Styles as Factors Affecting Students' Engagement of Learners with Learning Disabilities

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ABSTRACT

Student engagement remains a crucial factor in the academic success of learners with disabilities, particularly as educators strive to address diverse learning needs in inclusive classrooms. This study examined the relationship between students' learning styles and teachers' instructional styles, and how their alignment influences student engagement. Utilizing a non-experimental descriptive-correlational design, the study involved respondents from inclusive education settings and employed purposive sampling. Standardized instruments were used to identify students' preferred learning styles—visual, auditory, and tactile/kinesthetic—as well as teachers' dominant instructional methods. Descriptive statistics and Pearson correlation were used for data analysis. Results indicated that alignment between teaching methods and learning styles was positively correlated with student engagement. The highest engagement levels were observed in classrooms where instructional strategies matched students' preferred modalities, particularly through interactive, visually rich, and hands-on activities. These findings highlight the importance of differentiated instruction in promoting motivation, active participation, and meaningful learning experiences among students with learning disabilities.

Keywords: Learning styles; teaching styles; Instructional styles, student engagements; Inclusive education learning disabilities

INTRODUCTION

Student engagement was a critical factor in promoting academic success and the holistic development of learners. However, many students experienced disengagement, which led to diminished motivation, limited classroom participation, emotional detachment, and ultimately lower academic achievement, increased absenteeism, and higher dropout rates (Fredrick's & Paris, 2023). These challenges were especially concerning in the context of a rapidly changing educational landscape, where active engagement was necessary to develop the critical skills needed in a globalized world (Delfino, 2023).

Learners with disabilities faced unique barriers to engagement, making the issue even more pressing. Engagement played a vital role in their academic success, social integration, emotional resilience, and overall well-being (Fredrick's, Blumenfeld, & Paris, 2021). However, obstacles such as limited access to instructional resources, communication difficulties, and challenges with sustained attention persisted (Shin et al., 2021). These conditions required educators to adopt tailored strategies that addressed the diverse needs of students with disabilities.

Instructional methods, classroom environment, peer relationships, and teacher attitudes all influenced student engagement. A supportive, inclusive setting fostered a sense of belonging and reduced learning barriers (Aronson & Laughter, 2021). Teachers played a central role in this effort and enhanced engagement by using differentiated instruction, incorporating assistive technologies, and promoting collaborative learning experiences that empowered all students to participate meaningfully (Tomlinson, 2024).

Globally, disparities in educational resources significantly impacted student engagement. For instance, UNESCO (2023) reported that unequal access to quality education contributed to disengagement and poor academic performance. In the Philippines, students in rural and marginalized areas often faced outdated learning materials, insufficient textbooks, and under-resourced schools (UNICEF Philippines, 2020). These challenges

undermined student motivation and participation. Despite increased awareness of the importance of engagement, comprehensive research on how instructional strategies and learning preferences affected diverse learners remained limited. Without targeted interventions, disengagement continued to drive poor academic outcomes and high dropout rates.

The purpose of this study was to examine the relationship between students' learning styles, teachers' instructional strategies, and student engagement, with a particular focus on learners with disabilities. The research aimed to explore how differentiated instruction—grounded in the alignment of teaching styles with students' learning preferences—could enhance academic participation and performance in inclusive classrooms. Ultimately, the study sought to generate practical insights that educators could use to optimize their teaching practices, foster deeper student engagement, and promote a more equitable and inclusive educational environment.

Tancredi, Graham, and Killingly (2024) recently conducted a study that examined how accessible pedagogies affected Australian students who struggled with language and/or attention. According to the study, obstacles such as complicated instructions and a lack of written or visual aids frequently caused disengagement in students with ADHD and developmental language disorder (DLD). This emphasized the importance of aligning instructional strategies with students' learning needs to increase involvement and engagement. Similarly, Halil Taş and Muhammet Baki Minaz (2024) investigated how learning style-based diversified instructional activities affected students' academic performance and material recall in social studies classes. Their study revealed that student engagement and academic outcomes significantly improved when teaching strategies were adapted to suit preferred learning styles—such as independent, competitive, or collaborative approaches—highlighting the value of aligning instruction with learning preferences to create a more engaging and effective educational experience.

In an inclusive classroom in SDO Calamba City, Philippines, Jerrilyn P. Ramilo and Minguela S. Ting (2024) recently explored the effectiveness of individualized instruction, student engagement, and academic performance among children with various learning challenges. The findings indicated that differentiated instruction substantially improved both academic performance and student engagement, underscoring the importance of adapting teaching methods to accommodate students' diverse needs. Furthermore, a study by Mark Anthony Mendoza Rosal and Jessie S. Echaure (2021) examined the relationship between teachers' teaching styles, students' learning styles, and the competencies of children with special needs in secondary public schools in Zone IV, Division of Zambales, and Philippines. The study found that although teachers primarily used an expert teaching style and student's preferred visual learning, significant differences in student competencies emerged based on grade level and age. This suggested that aligning instructional methods with students' preferred learning styles could enhance both engagement and academic achievement, particularly in rural educational settings.

This research held significance as it addressed the growing need for varied pedagogical approaches in education, particularly in enhancing student engagement through tailored instructional methods. Understanding how different learning styles influenced student involvement provided educators with essential knowledge to create more inclusive and effective learning environments. Recognizing that each student learned differently—through visual, auditory, tactile, or kinaesthetic means—allowed teachers to adjust their lesson plans to meet individual learning needs more effectively.

The study emphasized the importance of students recognizing their individual learning preferences and understanding how various teaching strategies could affect their motivation and engagement in the classroom. Incorporating different teaching styles to accommodate diverse learners led to improved academic performance and increased student satisfaction. Furthermore, the study supported efforts to enhance student engagement and retention, particularly in inclusive and diverse learning environments. It also offered valuable insights relevant to educational reform.

The main purpose of the study was to determine the influence of learning styles and teaching styles as factors affecting student engagement among learners with disabilities. The study hypothesized that there was no significant relationship between teaching styles and student engagement, and that there was no significant influence of teaching styles and learning styles on student engagement.

This study was anchored in Jean Piaget's (1896) Constructivist Theory, which posited that learners actively constructed knowledge through interaction with their environment and experiences. Piaget emphasized that learning was not the passive absorption of information, but a dynamic process in which individuals built meaning based on their cognitive development and prior knowledge. This theory supported the idea that students engaged more deeply when learning experiences were meaningful, personalized, and aligned with their developmental stage and learning preferences.

Conceptual Framework

Independent Variable

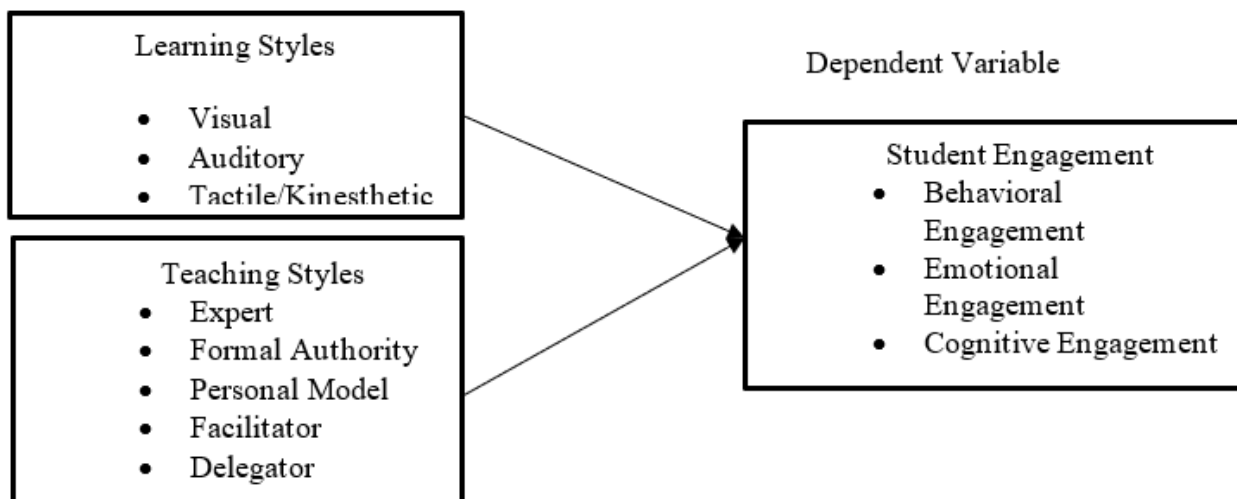


Figure 1. Learning Styles and Teaching Styles as Factors Affecting Students' Engagement

METHOD

This study used a quantitative, descriptive correlational design to evaluate the respondents. It also looked for any significant relationships between learning style, teaching style, and student engagement of students with learning disabilities in Francisco Bustamante National High School. A descriptive correlational design looks for a relationship between variables without making any attempts to modify them.

This study was conducted in Francisco Bustamante National High School, a public secondary school campus located in Tibungco, Davao City. Tibungco is a barangay situated in the northern part of Davao City, known for its growing residential communities and accessibility to both urban and rural areas. The school serves a diverse student population and plays a key role in providing quality education to learners in the surrounding communities. Students in Senior High School (SHS) GAS at Francisco Bustamante National High School 2024-2025 served as the study's respondents. A total of 150 respondents were obtained from the researchers.

The adapted questionnaire was constructed based on the VAK Learning Styles Questionnaire (LSQ), adopted from Leonard, Enid. College Success Simplified 2005. The item questions are scaled from 4- Strongly Agree to 1- Strongly Disagree. The researchers talked about the methods and strategies used in the research. The participants in this study won't experience any negative effects from their participation. The participants in the study, the students and teachers of Francisco Bustamante National High School, will provide their complete consent prior to the investigation.

Furthermore, measures would be taken to safeguard the research participants' privacy. Respondents' voluntary participation in the study will be given high consideration. Additionally, the Senior High School teachers in the area obtained data from the investigators.

The researchers created the necessary instruments for the teaching process during the course of the treatment in order to obtain every teacher's consent. Furthermore, the participants of this study have the right to withdraw from the study at any stage if they wish to do so. The study aimed to describe the relationship between students'

learning styles, teaching strategies, and student engagement using a descriptive-correlational research design. The data will be gathered through both surveys and classroom observations to identify patterns and correlations between these variables.

During the data gathering, the researcher underwent steps as follows: A letter from the dean of the Holy Cross Davao College was requested to seek authorization to undertake the study. Upon approval of the permission letter, the researcher formally requested permission from the Division Office of DepEd Davao City. In a separate letter addressed to the principal of the school, the researcher personally sent it to her, attaching the approved request letter from the SDS and endorsement letter from the HCDC Graduate School Dean. On the one hand, the intended respondents have received official notification that they are participating in the study. An informed Consent Form (CF) and Assent Form have been disseminated to the respondents to be completed with the parents. They were informed of the study's goal and their significant contribution to the research.

It was also highlighted to the respondents that participation is not compulsory, and data gathering will be done face-to-face. The data were encoded, tabulated, and analysed according to the study's objective.

RESULTS

Table 1: Descriptive Analysis of the Learning Styles and Teaching Styles as Factors Affecting Students' Engagement of Learners with Learning Disabilities

Variables and Their Indicators	Standard Deviation	Mean	Verbal Description
Learning Styles	0.70	4.40	Very High
Visual	0.75	4.36	Very High
Auditory	0.67	4.42	Very High
Kinesthetic/Tactile	0.70	4.42	Very High
Teaching Styles	0.58	4.58	Very High
Teacher-centered	0.66	4.26	Very High
Student-centered	0.33	4.90	Very High
Student Engagement	0.58	4.27	Very High
Behavioral Engagement	0.65	4.54	Very High
Emotional Engagement	0.50	3.58	Very High
Cognitive Engagement	0.51	4.70	Very High

Presented in Table 1, is the descriptive level of overall results for learning styles scored a mean score of 4.40 with a standard deviation of 0.70 and was interpreted as very high. This indicates the students frequently exhibit these learning styles. Among the three indicators under learning styles, Visual emerged as the highest mean score of 4.40 with a standard deviation of 0.70 and was interpreted as very high. This means that visual learning is a dominant style. The lowest mean score of 4.36 with a standard deviation of 0.75 belongs to Auditory, which is interpreted as very high. This suggests that auditory learning is also very present, although slightly less prevalent than visual.

Similarly, the overall results for teaching styles scored a mean score of 4.58 with a standard deviation of 0.58 and were interpreted as very high. This means that the teachers' teaching styles are highly utilized. Among the three indicators under teaching styles, Student-centered emerged as the highest mean score of 4.90 with a standard deviation of 0.33 and was interpreted as very high. This means that student-centered teaching approaches are strongly emphasized. The lowest mean score of 4.26 with a standard deviation of 0.66 belongs to Teacher-centered, which is interpreted as very high. This indicates that while student-centered approaches are more common, teacher-centered approaches are still very much in use.

Likewise, the results for student engagement scored a mean score of 4.27 with a standard deviation of 0.58 and were interpreted as very high. This means that students are highly engaged in the learning process. Among the three indicators under student engagement, Cognitive Engagement emerged as the highest mean score of 4.70 with a standard deviation of 0.51 and was interpreted as very high. This means that students are highly engaged

cognitively. The lowest mean score of 3.58 with a standard deviation of 0.50 belongs to Emotional Engagement, which is interpreted as very high. Overall, the findings indicate that students demonstrate a very high level of engagement across various aspects.

Table 2. Significance of Relationship of learning styles, teaching styles and student engagement.

Independent Variable	Student Engagement			
	R	P-value	Decision on H01	Interpretation
Learning Styles	0.030	0.00	Reject	Significant
Teaching Styles	0.380	0.00	Reject	Significant

Shown in Table 2 is the relationship between learning styles, teaching styles, and student engagement. Learning Styles shows a positive relationship with an R-value of 0.030 and a p-value of 0.00, which means a significant relationship between learning styles and student engagement, implying that the null hypothesis is rejected. Furthermore, Teaching Styles also shown a strong positive relationship with an R-value of 0.380 and a p-value of 0.00, which means a strong correlation between teaching styles and student engagement that, implies teaching styles have a strong significant relationship signifying that the null hypothesis is rejected.

Table 3. Regression Table

Table 3 shows that both Learning Styles and Teaching Styles have a significant influence on student engagement.

Variables	Student Engagement				
	R ² -value	F-value	p-value	Decision on Ho	Interpretation
Learning Styles	0.030	17.724	0.000	Reject	Significant
Teaching Styles	0.038	29.467	0.000	Reject	Significant
Combined Influence	0.68	47.191	0.000	Reject	Combined significant influence

Table 3 shows that both Learning Styles and Teaching Styles have a significant influence on student engagement.

For Learning Styles, the R² value is 0.030, the F-value is 17.724, and the p-value is 0.000. This indicates a significant influence of learning styles on student engagement, leading to the rejection of the null hypothesis. For Teaching Styles, the R² value is 0.038, the F-value is 29.467, and the p-value is 0.000. This also indicates a significant influence of teaching styles on student engagement, leading to the rejection of the null hypothesis.

Furthermore, the Combined Influence of Learning Styles and Teaching Styles on student engagement show an R² value of 0.68, an F-value of 47.191, and a p-value of 0.000. This indicates that the combined influence of learning styles and teaching styles significantly predicts student engagement, signifying that the null hypothesis is rejected. The p-values for all variables are below the 0.05 threshold, leading to the rejection of the null hypotheses, and indicating that both learning styles and teaching styles, individually and combined, have a significant influence on student engagement.

DISCUSSION

The descriptive analysis of the study indicated that learning styles, teaching styles, and student engagement were all consistently interpreted as Very High Table 1. These findings carried significant implications for educational practice. The pervasive prevalence of diverse learning styles among students suggested an inherent capacity for engagement when instructional approaches were varied and accommodating (Terada, Y., & Merrill's. (2025). similarly, the high descriptive level of teaching styles, particularly the strong presence of student-centered approaches, implied that educators were already employing highly effective pedagogical strategies that fostered a conducive learning environment (Quibat & Ubayubay (2025). This contributed to the high levels of student engagement observed across behavioral, emotional, and cognitive dimensions. The richness of multimodal instruction also allowed students to process information through various sensory channels, strengthening

memory retention and promoting a more holistic understanding of complex concepts (Youki Terada & Stephen Merrill (2025)

Further analysis, as presented in Table 2, revealed significant positive relationships between both learning styles and student engagement, and teaching styles and student engagement. These significant correlations implied that student engagement was fostered when instructional methods aligned with individual learning preferences and when teaching styles were effective this finding aligned with the study of Sanchez et al. (2024), which emphasized that instructional alignment significantly influenced student participation and motivation. Especially when students felt that their learning preferences were acknowledged and accommodated, teachers who adapted their methodologies were more successful in responding to diverse needs and in fostering a responsive and inclusive classroom environment (Sanchez et al. (2024). Moreover, effective teaching extended beyond mere content delivery to include student agency, creativity, and inquiry, demonstrating that when students were given options in how to engage with content, they exhibited greater ownership of their learning (Derek Wenmoth, Marsha Jones, & Joseph Di Martino (2021)

The regression analysis, as detailed in Table 3, further confirmed that both learning styles and teaching styles had a significant influence on student engagement. This indicated that they significantly predicted student engagement, implying their critical roles in effective teaching and positive student outcomes (Li, Xue, & Xie, 2023) The combined influence of learning styles and teaching styles also showed a significant predictive power, suggesting that together they accounted for a notable proportion of the variation in student engagement. This emphasized their critical roles in effective teaching and student outcomes (Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). Technology also played a significant role in promoting student engagement and personalization, enriching the learning experience and providing more avenues for differentiated instruction, thereby contributing to this predictive capacity (Ellikkal, A.,& Rajamohan, S. (2025). Despite these strengths, teachers often faced challenges such as large class sizes and limited resources, which could act as barriers to fully leveraging these influences.

Grounded in constructivist theory, the findings of the study demonstrated that student engagement was co-constructed through the dynamic interaction of learning styles, teaching methods, and meaningful instructional practices. When learning was treated as a collaborative and student-centered process, both teachers and students experienced deeper learning, mutual respect, and a shared sense of purpose. This collaborative approach transformed the classroom into a vibrant community of learners, where knowledge was not merely transmitted but actively built through shared experiences and dialogue. Teacher development also emerged as a pivotal element, as educators who adopted effective teaching strategies were better positioned to understand and respond to the diverse needs of their students.

Based on the findings of this study, it was recommended that educational institutions provide ongoing, differentiated professional development focused on aligning instruction with diverse learning styles. These training programs should introduce strategies such as multimodal teaching, flexible assessment, and learning preference-based grouping to support inclusive classroom practices. Teachers should be encouraged to diversify their instructional methods by integrating visual, auditory, and kinesthetic elements into their lessons, which helped maintain student attention, deepen understanding, and foster inclusivity. Furthermore, schools were advised to adopt inquiry-based approaches and incorporate educational technology to enrich instructional delivery and provide students with meaningful opportunities to explore and apply knowledge in personalized ways. Creating space for student choice—whether through independent tasks, group work, or creative projects—was seen as essential to increasing ownership and motivation. Finally, it was emphasized that school leaders should actively address barriers such as limited resources, large class sizes, and the preparation demands of differentiated teaching by supporting collaborative planning, resource sharing, and institutional strategies that lighten the load for educators and foster sustained engagement.

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