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### Essential Blocks of Learning: Assessing Learners' Motivation, Learning Styles, and Academic Engagement

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#### Abstract

This study delves into the intricate dynamics of learners' motivation, learning styles, and academic engagement among students at Noveleta Senior High School. Employing a quantitative approach, the research explores correlations among various motivational dimensions and learning styles to unravel the complex web of factors influencing students' academic experiences.

The findings reveal a multifaceted motivational landscape, with intrinsic motivation strongly linked to task value, control of learning beliefs, and self-efficacy for learning and performance. However, extrinsic motivation exhibits a nuanced relationship with academic engagement. The perceived value of tasks emerges as a crucial determinant of motivation, influencing how students approach their

learning experiences. Test anxiety, as a facet of motivation, showcases a significant positive correlation with various motivational dimensions. Students grappling with higher test anxiety tend to report lower intrinsic and extrinsic motivation, highlighting the impact of psychological stressors on motivational factors. The exploration of learning styles indicates distinct preferences, with visual learning styles positively correlated with academic engagement. This suggests that students favoring visual aids in learning may exhibit higher behavioral, affective, and social engagement. The correlation matrix unravels complex connections between motivational factors and learning styles, emphasizing the strong positive relationship between learners' motivation and preferred learning approaches.

**Keywords:** Learning, Academic Engagement, Philippines

#### Introduction

The motivation of learners is a crucial component of academic engagement. Having high motivation in learning is likely to result in high academic engagement (Borah, 2021) <sup>[11]</sup>. According to Orji and Vassileva (2021) <sup>[34]</sup>, motivating students can help them achieve their learning objectives. Motivation is essential for acquiring knowledge and achieving great academic success (Orji & Vassileva, 2021) <sup>[34]</sup>. Motivated learners can learn practically anything, making it a crucial element for a teacher's success in fostering student involvement in the learning process and promoting strong academic performance (Leitão *et al.*, 2021) <sup>[30]</sup>. Effective environmental education requires the inclusion and engagement of people, as well as educating them (Leitão *et al.*, 2021) <sup>[30]</sup>. This research supports the claim that motivated learners can learn anything.

Learning styles are also factors in students' academic engagement. According to Cecilia *et al.* (2019) <sup>[16]</sup>, learners have a variety of preferred learning techniques, and there is a considerable contrast in students' preferred learning styles. It is claimed that the academic engagement of learners and their learning preferences are positively correlated (Cecilia *et al.*, 2019) <sup>[16]</sup>. Additionally, having a good learning style can contribute to good academic engagement (Ergun, 2020). Learning objectives allow students to take control of their learning, manage their time well, dedicate themselves to their studies, organize their studies, focus on the educational situation or object, work well with illustrations, enjoy conducting research, recall information with ease, and learn knowledge using retrieval instruments (Ergun, 2020). Visual learners prefer taking notes to understand lectures better, exhibit higher levels of interest, prefer independent learning, and take control of their education (Lazaro *et al.*, 2023) <sup>[29]</sup>. Learners with auditory styles can easily grasp and recall course material, leading to good academic performance (Devy *et al.*, 2022) <sup>[20]</sup>. Emphasizing the correlation between teaching strategy and learners' preferred learning style fosters intrinsic motivation, increasing learner engagement in the learning process (Almasri, 2022) <sup>[3]</sup>.

According to Meng *et al.* (2023), extrinsic motivation has indirect and direct advantages on student performance through

educational behavior, while intrinsic motivation has only a minor effect on learners' engagement. Research on learning motivation in education focuses on two main areas: extrinsic and intrinsic. Intrinsic motivation involves an individual's inner being, driven by biological, emotional, spiritual, or social factors, and it is characterized by personal enjoyment and individual contentment (Borah, 2021) <sup>[11]</sup>. Extrinsic motivation is external to the individual and may take the form of responsive social cognition or conditioning, such as a desire for financial rewards (Borah, 2021) <sup>[11]</sup>. There are two types of learning motivation: intrinsic and extrinsic (Chaw & Tang, 2019) <sup>[17]</sup>.

The success of some students is related not only to their high levels of linguistic skills and motivation but also to their innovative and enthusiastic engagement in the learning process using personalized learner strategies (Bishouthy *et al.*, 2018) <sup>[14]</sup>. Learning management systems are used in many academic courses across various nations and fields, and future research should consider characteristics using a time sequence technique or a more long-term strategy (Ferrer *et al.*, 2020) <sup>[24]</sup>. Academic engagement is crucial for the behavioral definition of learning, encompassing active or passive actions that support learning (Amerstorfer & Münster-Kistner, 2023). Learners are more likely to reach the highest academic levels when actively involved in their studies (Casuso-Holgado *et al.*, 2021).

To truly acknowledge effective learning, elements such as learning styles and motivation should be recognized as dynamic aspects of students' educational journey. Learning styles should be considered as a progression, embracing the flexibility of cognitive preferences, while motivation can be nurtured and maintained through engaging activities and application. A student's emotional development, general well-being, and sense of community in the classroom should all be taken into consideration when assessing their level of academic engagement. This study aims to explore the relationship between learners' motivation and their learning styles in terms of academic engagement. The research utilizes a descriptive-correlational method to gather the necessary data.

### Objectives of the Study

This study is designed to comprehensively assess various aspects of learners' educational experience, focusing on motivation, academic engagement, and preferred learning styles. By examining these key components, the research seeks to gain a holistic understanding of the dynamics shaping the learning process. Firstly, the study aims to gauge the level of motivation exhibited by learners. Understanding the degree of motivation is pivotal in unraveling the underlying driving forces that influence students' commitment and enthusiasm towards their academic pursuits. In addition to motivation, the research endeavors to identify the preferred learning styles of the participants. Recognizing individual learning preferences is crucial for tailoring instructional approaches that resonate with the diverse ways in which students absorb and process information. Furthermore, the study seeks to evaluate the extent of academic engagement among learners. Academic engagement goes beyond mere participation; it involves the depth of involvement in learning tasks, interactions with course materials, and engagement with peers. Assessing this aspect provides insights into the overall learning experience. Lastly, the research aims to explore the relationships and

correlations existing between motivation, preferred learning styles, and academic engagement. By scrutinizing the intricate connections among these variables, the study aspires to uncover patterns and associations that contribute to a more nuanced comprehension of the multifaceted nature of the learning process.

In summary, this study adopts a comprehensive approach to investigate learners' motivation, preferred learning styles, and academic engagement, with a specific focus on understanding the intricate relationships between these crucial elements in the realm of education.

### Methods and Materials

To assess the levels of learners' motivation, engagement, and preferred learning styles, and to examine the potential relationships among these variables, a quantitative and correlational research method was employed in this study.

Data collection was conducted using a questionnaire distributed to students at Noveleta Senior High School. The chosen respondents for this study were the students of Noveleta Senior High School. The researchers collected and disseminated the gathered data through tabular representation. Google Forms was employed as the data-gathering instrument, consistent with Aulianto and Raharja's (2023) <sup>[6]</sup> exploration of its versatile use across various learning contexts. The quantitative research design utilized in this study is in line with Ahmad *et al.*'s (2019) <sup>[2]</sup> description, emphasizing its reliance on natural science techniques that yield numerical data to establish cause-and-effect relationships between variables. This approach enables the examination of trends, patterns, and connections, allowing for the formulation of hypotheses and the application of outcomes to larger populations (Bhandari, 2023) <sup>[8, 9]</sup>.

The correlational research design was chosen to investigate the relationships between variables without manipulation by the researchers, aligning with Devi and Lepcha's (2023) <sup>[18]</sup> and Khidir's (2021) <sup>[28]</sup> perspectives. The primary objective was to explore the relationships and impact of learners' motivation, learning styles, and academic engagement in the educational context. Convenience sampling, defined by Bhardwaj (2019) <sup>[10]</sup> as a non-probability method based on easy accessibility, was employed to select the sample population exclusively from the students of Noveleta Senior High School. The target population comprised at least one hundred ten (110) respondents, chosen purposively for their convenient accessibility and cost-effectiveness.

The data analysis involved coding in Microsoft Excel, followed by transfer to Jamovi statistics software. Mean calculations were performed for each set of data gathered from the respondents to summarize and analyze the information. This research adopts a quantitative research design, utilizing a correlational approach to systematically examine numerical data and explore potential correlations among learners' motivation, learning styles, and academic engagement. The Likert scale was employed to rank variable levels in this study. Likert-type questions, ranging from 1 (Extremely low) to 5 (Extremely high), were utilized to gauge respondents' sentiments or levels of agreement with the topics. To determine significant relationships between the variables (learners' motivation, learning styles, and academic engagement), the Spearman rank coefficient ( $\rho$ ) was employed as the correlational statistic.

**Results and Discussion**

This part of the study shows the result and interpretation of the gathered data. The data will be interpreted based on the research questions that had been made in the first chapter of this study. The researchers used a quantitative approach and collected responses via an online survey. The researchers calculated the mean level of learners’ motivation, learning styles, and academic engagement of Noveleta Senior High School Students. Descriptive and correlational statistical analyses were employed to reinforce the findings.

**Problem 1: What is the level of learning motivation of students? In terms of intrinsic goal orientation, extrinsic goal orientation, task value, learning beliefs control, and test anxiety**

**Table 1:** Intrinsic Goal Orientation

Questions	Mean	Rank	Interpretation
I like challenging topics in classes because it allows me to learn new things.	3.99	1	High
Even if the content is challenging to grasp, I prefer learning material that piques my curiosity in class.	3.82	2	High
I find that attempting to fully absorb the material is the most fulfilling aspect of this class.	3.78	3	High
Whenever I'm given the chance in this subject, I select tasks that will help me learn even though they do not guarantee a high mark.	3.82	2	High
Total Mean	3.85		High

The data reveals that students exhibit a high level of motivation, particularly in the domain of intrinsic motivation, as indicated by a total mean score of 3.85 on the 5-point Likert scale. This implies a strong inclination among students to engage with challenging topics, prioritize curiosity-driven learning, find fulfillment in absorbing course material, and actively choose tasks that contribute to their learning, even if they don't guarantee high marks.

This finding contrasts with Hawthorne's (2023) [25] study, which suggested that many students during adolescence tend to demonstrate lower levels of intrinsic motivation. However, the current study aligns with the results presented by Abun (2019) [1], reinforcing the notion that students at Noveleta Senior High School exhibit a notably high level of engagement driven by intrinsic motivation. Abun (2019) [1] also suggests that students with high intrinsic motivation are more adept at discovering new information and demonstrate considerable ambition in their personal growth.

The data underscores the positive and strong intrinsic motivation prevalent among students at Noveleta Senior High School, challenging prevailing assumptions about adolescent motivation levels and affirming the significance of intrinsic motivation in fostering a proactive and ambitious approach to learning.

**Table 1.2:** Extrinsic Goal Orientation

Questions	Mean	Rank	Interpretation
At this moment, the most fulfilling thing for me is achieving a decent grade in this class.	3.90	1	High
Getting a decent grade in this subject is my main worry because boosting my	3.73	2	High

overall average is what matters most to me right now.			
I would like to surpass the majority of my fellow learners in this class if that's possible.	3.57	3	High
I want to perform well in this class as I want to be able to demonstrate my skills to others, including employers, friends, and family	3.90	1	High
Total Mean	3.77		High

The data analysis indicates a notable level (M=3.77) of motivation attributed to extrinsic factors, emphasizing the importance of achieving a decent grade in the class and prioritizing overall academic performance. This finding stands in contrast to the study conducted by Abun (2019) [1], which reported a moderate level of extrinsic motivation among students. However, it aligns with the results presented by Alnemare (2020) [4], providing further support for the prevalence of high extrinsic motivation among learners at Noveleta Senior High School.

The data suggests that students in this context demonstrate a competitive mindset and a strong desire to outperform their peers, as reflected in the inclination to surpass the majority of fellow learners in the class. Alnemare (2020) [4] affirms that students who are extrinsically motivated often perceive academic success as a pathway to a promising future, success in studies, and completion of college courses.

The results highlight a high level of extrinsic motivation among students at Noveleta Senior High School, underscoring their competitive orientation and recognition of academic achievements as valuable assets for future success. This finding contributes to the understanding of the multifaceted motivational dynamics shaping students' approaches to learning and academic performance.

**Table 1.3:** Task Value

Questions	Mean	Rank	Interpretation
I believe that the knowledge I gain from this class can be applied to other classes as well.	3.87	2	High
It is essential that I understand the topics discussed in this class.	3.90	1	High
The subject matter of this class really interests me	3.76	5	High
I believe I can learn anything from the learning material in this class	3.75	4	High
This class's subject matter interests me.	3.74	6	High
It's essential for me to learn the course material	3.85	3	High
Total Mean	3.81		High

The analysis of the data indicates a high level (M=3.81) of motivation related to task value among the students. This finding highlights the students' belief in the applicability of knowledge gained from the class to other academic endeavors. In contrast, Laakso *et al.*'s (2022) [39] study reported a lower level of motivation in this regard, providing a differing perspective. However, the current result aligns with the findings of Song & Chong (2020) [38], offering support for the notion that students at Noveleta Senior High School exhibit high motivation when the course materials are perceived as valuable.

The data suggests that the students are highly motivated to understand and engage with the topics discussed in the class, and they express genuine interest in the subject matter. The

results resonate with the idea that students are more motivated when the quality of course materials is perceived as high, enabling them to grasp and learn the content more effectively.

The findings underscore the students' high motivation associated with the perceived value of the tasks in the class, supporting the idea that the quality of course materials plays a crucial role in shaping students' motivation and engagement. This contributes to the understanding of how task value influences students' overall motivation in the academic context at Noveleta Senior High School.

**Table 1.4:** Control of Learning Beliefs

Question	Mean	Rank	Interpretation
I should be able to comprehend the topics in this class if I study properly.	4.02	1	Very High
If I fail to comprehend the topics covered in this class, it is my fault.	3.72	3	High
I will be able to comprehend the subject matter if I put in enough effort	3.98	2	High
I didn't put in enough effort to learn the lesson topic if I couldn't understand it.	3.26	4	High
Total Mean	3.75		High

Table 1.4 illustrates that students exhibit a high level (M=3.75) of motivation in terms of control of learning beliefs. This result reflects a strong belief among students that they can comprehend the topics covered in the class through proper study and effort. The finding aligns with the study of Lobos *et al.* (2021) [31], which also reported a high level of motivation in this domain. It emphasizes that students at Noveleta Senior High School possess a significant level of confidence in their abilities to successfully complete their courses. The data suggests that students believe in their capability to understand and master the subject matter when sufficient effort is applied. This positive learning belief is consistent with Lobos *et al.*'s (2023) assertion that students with optimistic learning beliefs are more likely to dedicate substantial time to their studies.

The findings highlight a high level of motivation among students at Noveleta Senior High School in terms of control of learning beliefs. This positive outlook on their capabilities contributes to a proactive approach to learning, emphasizing the importance of self-efficacy in fostering academic success.

**Table 1.5:** Self-efficacy for Learning and Performance

Questions	Mean	Rank	Interpretation
I think I'm going to get an excellent performance in this class.	3.70	2	High
With the material provided for this class, I'm sure I can understand even the most challenging stuff.	3.74	1	High
I'm sure I can pick up on the key concepts covered in this course	3.67	4	High
I'm sure I can comprehend even the hardest subject the teacher in this class will be presenting	3.51	7	High
I have no doubt that I can perform exceptionally well on the tasks and assessments in this course.	3.51	7	High
I'm expecting to perform well in the class	3.59	6	High
I have no doubt that I can pick up the	3.64	5	High

skills that are taught in this class.			
I believe I will succeed in this class given the teacher's expertise, the course's complexity, and my abilities.	3.68	3	High
Total Mean	3.63		High

The table indicates a high level (M=3.63) of motivation in terms of self-efficacy for learning and performance among students. This result aligns with the findings of Barni *et al.* (2019) [7], emphasizing that students with high self-efficacy exhibit confidence in their ability to successfully complete tasks assigned by the lecturer. The data suggests that students at Noveleta Senior High School possess a strong belief in their capacity to finish tasks on time, irrespective of the complexity involved.

The findings highlight the students' confidence in understanding challenging material, grasping key concepts, comprehending even the most difficult subjects presented by the teacher, and expecting exceptional performance in tasks and assessments. This positive outlook on their abilities reinforces the idea that students can overcome challenges and succeed in their academic endeavors. The results underscore a high level of motivation in terms of self-efficacy for learning and performance among students at Noveleta Senior High School. This positive self-belief contributes to a resilient and determined approach to academic tasks, reflecting the students' confidence in their capabilities to succeed in their coursework.

**Table 1.6:** Test Anxiety

Question	Mean	Rank	Interpretation
When I take an exam, I consider how poorly I perform in comparison to other students.	3.72	1	High
During an exam, I often think of questions on sections of the test that I am unable to answer.	3.63	2	High
I consider my chances of failing exams when I take them	3.51	5	High
Whenever I take an exam, I feel nervous and feel displeased	3.55	4	High
When I take a test, I feel my heart racing	3.58	3	High
Total Mean	3.60		High

Table 1.6 indicates that students exhibit a high level (M=3.60) of motivation related to test anxiety. This finding suggests that students experience nervousness and displeasure when taking exams. These results are consistent with the study conducted by Song & Chung (2020) [38], supporting the interpretation that students at Noveleta Senior High School indeed face a high level of test anxiety. The data underscores the prevalence of anxiety among students when exams are imminent.

The findings suggest that students often consider their performance in comparison to peers, think about unanswered questions during exams, and contemplate the possibility of failing. Additionally, they experience physical symptoms such as a racing heart, indicative of the emotional and psychological impact of test anxiety. The results highlight a high level of test anxiety among students at Noveleta Senior High School, emphasizing the need for supportive strategies and interventions to address and alleviate the challenges associated with exam-related stress. This finding contributes to a comprehensive understanding



of the multifaceted nature of student motivation, encompassing both positive and challenging aspects of the learning experience.

**Problem 2: What are the preferred learning styles of the students in terms of visual, auditory, and kinesthetic?**

**Table 2.1: Visual**

Question	Mean	Rank	Interpretation
I really enjoy drawing; thus, my notes are full of different illustrations and directional symbols.	3.51	4	High
Taking notes helps me remember the material better.	4.06	1	Very high
When I'm given instructions to a new location, I find that I forget them quickly if I don't write them down.	3.73	3	High
To remember a phone number or other new information, I find it helpful to mentally picture it.	3.78	2	High
I can see the page in the textbook and know exactly where the answer is when taking an exam	3.45	5	High
Total Mean	3.70		High

The result presented in this study indicates that learners exhibit a high level (M=3.70) of utilizing visual learning styles. This finding suggests that students at Noveleta Senior High School prefer incorporating visual elements, such as illustrations and directional symbols, into their notes. This aligns with Lazaro *et al.*'s (2023) [29] study, which also reported that students with a visual learning style preferred taking notes as a means of better understanding their lectures. The data supports the notion that taking notes aids students in comprehending course material effectively. The findings highlight the significance of visual learning styles in enhancing students' understanding of the material. The preference for incorporating visual elements into notes demonstrates that students find visual aids helpful for memory retention and comprehension. This supports the idea that adopting visual learning strategies, such as note-taking, aligns with the preferences of students at Noveleta Senior High School and contributes to their academic success.

The results emphasize the high prevalence of visual learning styles among students, showcasing the value of incorporating visual elements into notes as an effective strategy for understanding and retaining course material. This finding contributes to a deeper understanding of the diverse learning preferences of students at Noveleta Senior High School.

**Table 2.2: Auditory**

Questions	Mean	Rank	Interpretation
I'm not happy with how my writing looks.	3.44	5	High
I find it easier to keep on task when I read by using my finger as a guide.	3.69	3	High
Papers with small font sizes, crooked photocopies, or poor print quality are hard for me to read.	3.74	1	High
I don't need to read things aloud for myself when somebody explains them to me.	3.55	4	High
My memory is more likely to retain what I hear than what I see or read.	3.60	2	High

Total Mean	3.60	High
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Table 2.2 indicates that students exhibit high levels of auditory learning styles (M=3.60), suggesting that individuals with auditory preferences excel as good listeners. This finding contrasts with Lazaro *et al.*'s (2023) [29] study, which reported an average interpretation in their findings. However, it aligns with the study conducted by Deviy *et al.* (2022) [20], indicating a high level of auditory interpretation. The data supports the idea that learners with auditory styles can easily comprehend and recall course material, leading to good academic performance. This result underscores the notion that students at Noveleta Senior High School have a strong ability to understand lectures by simply listening to their instructors.

The findings emphasize the effectiveness of auditory learning styles in enhancing students' understanding of course material. Individuals with auditory preferences may find it easier to grasp and recall information when presented through verbal explanations. This aligns with Deviy *et al.*'s (2022) [20] assertion that students with auditory styles tend to perform well academically. The results highlight the prevalence of auditory learning styles among students, showcasing the significance of verbal explanations and auditory processing in their learning experiences. This finding contributes to a nuanced understanding of the diverse learning preferences of students at Noveleta Senior High School.

**Table 2.3: Kinesthetic**

Questions	Mean	Rank	Interpretation
I would prefer to enter right in and not have to read instructions.	3.17	5	High
I pick things up most effectively when I'm given the opportunity to practice what I've been taught.	3.80	1	High
I dislike using a desk for studying.	2.73	2	Average
I prefer to approach problem-solving with more trial-and-error rather than a methodical approach	3.45	4	High
Observing someone else accomplishes a task before following directions is beneficial to me.	3.56	3	High
Total Mean	3.34		High

The table indicates a high level (M=3.34) of kinesthetic learning styles among students. This finding suggests that students at Noveleta Senior High School prefer to engage in movement-related activities as a means of understanding the lecturer and grasping learning material. This result contrasts with Lazaro *et al.*'s (2023) [29] study, which reported an average interpretation. However, it aligns with the study conducted by Deviy *et al.* (2022) [20], indicating that learners with kinesthetic preferences learn by moving their bodies and can recall information effectively through this approach. The data supports the idea that students in this setting prefer to incorporate physical movement into their learning experiences.

The findings emphasize the significance of movement in the learning process for students with kinesthetic styles. These individuals may find that engaging in physical activities enhances their understanding of academic content. Deviy *et al.*'s (2022) [20] study suggests that the students' ability to recall information is influenced by the incorporation of movement into their learning methods. The results

underscore the high prevalence of kinesthetic learning styles among students, highlighting the importance of movement in their learning experiences. This finding contributes to a comprehensive understanding of the diverse learning preferences of students at Noveleta Senior High School.

**Problem 3: What is the engagement level of the students in terms of cognitive, behavioral, affective, and social engagement?**

**Table 3.1:** Cognitive

Questions	Mean	Rank	Interpretation
I try to relate what I'm now acquiring to what I already know.	2.91	2	Average
When I make a mistake, I try to reflect on it.	3.09	1	High
When the tasks are difficult, I just study the easy parts	2.81	3	Average
Total Mean	2.93		Average

The result presented indicates an average level (M=2.93) of academic engagement with respect to cognitive engagement. This finding suggests that students at Noveleta Senior High School demonstrate a moderate influence of their mental processes on their engagement in class. This result contrasts with the study conducted by Toro *et al.* (2022), which reported a higher level of engagement. However, it aligns with the findings of Hidayah *et al.* (2021)<sup>[26]</sup>, supporting the interpretation that students who exhibit cognitive engagement are capable of comprehending learning materials effectively and handling tasks with ease. The data suggests that students at Noveleta Senior High School are moderately engaged in their classes in terms of cognitive engagement. The findings underscore the significance of cognitive engagement in the learning process. Students who actively relate new information to their existing knowledge and reflect on their mistakes demonstrate a moderate level of cognitive engagement. Hidayah *et al.*'s (2021)<sup>[26]</sup> study emphasizes the positive impact of cognitive engagement on students' ability to grasp learning materials and approach tasks effectively. The results highlight a moderate level of cognitive engagement among students, indicating the importance of mental processes in their overall engagement in class. This finding contributes to a nuanced understanding of the cognitive aspects of academic engagement among students at Noveleta Senior High School.

**Table 3.2:** Behavioral

Questions	Mean	Rank	Interpretation
I'm paying attention in class	3.25	2	High
When I'm acquiring knowledge, I give everything I have.	3.24	3	High
Even if it's hard I'm not giving up	3.35	1	High
Total Mean	3.28		High

The table indicates a high level (M=3.28) of engagement in terms of behavioral engagement. This finding suggests that the behavior of students significantly influences their academic engagement. The result aligns with the study conducted by Toro *et al.* (2022), which also reported a high level of engagement. It indicates that students at Noveleta Senior High School actively participate in class, approach tasks diligently, and invest their best efforts in their academic endeavors. This finding underscores the proactive

and participatory behavior of students in their learning environment.

The results highlight the importance of behavioral engagement in shaping students' overall academic engagement. The student's active participation in class, commitment to acquiring knowledge, and perseverance even in challenging situations contribute to a high level of behavioral engagement. This aligns with Toro *et al.*'s (2022) study, emphasizing the positive impact of students' behavioral engagement on their academic success. The findings emphasize a high level of behavioral engagement among students, indicating their active involvement and commitment to learning. This result contributes to a deeper understanding of the behavioral aspects of academic engagement among students at Noveleta Senior High School.

**Table 3.3:** Affective Engagement

Questions	Mean	Rank	Interpretation
I can't wait to start the class.	3.13	1	High
I feel happy when in class.	3.01	2	High
I get distressed when in class	2.81	3	Average
Total Mean	2.77		Average

The data presented in Table 3.3 reveals a moderate level (M=2.77) of motivation with respect to affective engagement. This suggests that the emotional experiences of students have a moderate impact on their engagement in the classroom. This result is consistent with the findings of Bowden *et al.* (2019)<sup>[13]</sup>, who similarly observed a moderate level of student involvement. Affective engagement, which plays a role in shaping the reputation of students, is demonstrated to have a moderate influence on students at Noveleta Senior High School, as indicated by the average affective engagement.

This outcome underscores the importance of considering emotional factors in understanding students' overall engagement. While students express some degree of happiness and anticipation, there is also a moderate level of distress experienced in the classroom setting. This significant result emphasizes the complexity of affective engagement among students in the context of Noveleta Senior High School. The findings highlight a moderate level of affective engagement, emphasizing the role of emotions in shaping students' engagement in the classroom. This insight contributes to a more comprehensive understanding of the affective dimensions of academic engagement among students at Noveleta Senior High School.

**Table 3.4:** Social engagement

Questions	Mean	Rank	Interpretation
I try to collaborate with people I know the capabilities	3.23	2	High
When someone is having a hard time, I try to help them.	3.32	1	High
I don't like to collaborate with other people.	2.56	3	Average
Total Mean	3.03		High

The presented table reflects a high level (M=3.03) of engagement concerning social interaction. This indicates that students at Noveleta Senior High School exhibit strong capabilities in interacting with peers, teachers, and others. This finding aligns with Parrish's (2022)<sup>[35]</sup> research, which

also observed elevated levels of social engagement among students. Notably, students at Noveleta Senior High School display a pronounced preference for collaborative tasks, showcase high sociability with their peers, and demonstrate effective communication skills. This result emphasizes the students' pronounced social engagement, emphasizing their capacity for collaboration, willingness to assist peers facing challenges, and active participation in social interactions within the educational environment. The findings suggest that students at Noveleta Senior High School thrive in social

engagements, contributing positively to the overall learning atmosphere. The outcomes point out a high level of social engagement, showcasing students' proficiency in social interactions and collaborative endeavors. This insight enhances our understanding of the social dimensions of academic engagement among students at Noveleta Senior High School.

**Problem 4: Is there a significant difference between and among the variables?**

**Table 4.1:** Relationship between Learner’s Motivation and Academic Engagement

Correlation Matrix										
	1	2	3	4	5	6	7	8	9	10
Intrinsic	—									
Extrinsic	0.549***	—								
Task value	0.580***	0.621***	—							
Control of learning beliefs	0.610***	0.523***	0.630***	—						
Self-efficacy for learning and performance	0.604***	0.620***	0.671***	0.552***	—					
Test anxiety	0.472***	0.371***	0.362***	0.445***	0.451***	—				
Cognitive	-0.131	-0.110	-0.005	-0.062	-0.155	-0.212*	—			
Behavioral	-0.102	0.020	0.158	0.004	-0.013	-0.228*	0.590***	—		
Affective	-0.143	-0.046	0.108	-0.113	0.014	-0.263**	0.516***	0.642***	—	
Social	-0.088	-0.010	0.144	0.037	0.024	-0.155	0.471***	0.568***	0.637***	—

Note. \* p < .05, \*\* p < .01, \*\*\* p < .001

Table 4.1 presents the correlation matrix, illustrating associations between different dimensions of learners' motivation and learning styles. The table contains correlation coefficients (r) in each cell, quantifying the strength and direction of the relationships between respective variable pairs.

Behavioral engagement demonstrates a strong positive correlation with cognitive engagement (r=0.590, p<.001), indicating a significant and robust positive relationship between behavioral and cognitive engagement.

Affective engagement displays positive and significant correlations with cognitive engagement (r=0.516, p<.001) and behavioral engagement (r=0.642, p<.001). This suggests that learners' emotions in the classroom influence their behavior and overall learning experiences.

Social engagement exhibits positive correlations with all dimensions of learners' academic engagement: Cognitive (r=0.471, p<.001), Behavioral (r=0.568, p<.001), and Affective engagement (r=0.637, p<.001). This implies that

socially engaged learners actively participate in various aspects of their academic journey.

Test anxiety, representing one aspect of learners' motivation, shows a significant relationship with academic engagement: Cognitive (r=-0.212, p<.05), Behavioral (r=-0.228, p<.05), and Affective engagement (r=-0.516, p<.01). Higher levels of test anxiety correspond to lower academic engagement. Notably, social engagement is not significantly correlated with test anxiety (r=0.155), suggesting that test anxiety does not significantly impact learners' social engagement in the classroom.

Overall findings indicate a weak and negative correlation between learners' motivation and academic engagement. This implies that respondents' motivation adversely affects their academic engagement. This result aligns with Abdollazadeh *et al.*'s (2022) study, which also found a significant correlation between academic engagement and motivation.

**Table 4.2:** Relationship between Learning styles and Academic Engagement

	1	2	3	4	5	6
Visual	—					
Auditory	0.622	***	—			
Kinesthetic	0.513	***	0.538	***	—	
Cognitive	-0.196	*	-0.269	**	-0.304	**
Behavioral	-0.178		-0.171	**	-0.307	**
Affective	-0.080		-0.138	**	0.516	***
Social	-0.097		-0.142	**	0.471	***

Table 4.2 depicts the association between learning styles and academic engagement. The results reveal a significant negative relationship between learning styles and academic engagement. However, it's noteworthy that the Visual style is not significantly correlated with behavioral engagement (r=-0.178), affective engagement (r=-0.080), and social engagement (r=-0.097). This suggests that, despite learners taking notes in class, it does not influence their behavior, emotions, and interaction with classmates during class.

Similarly, the Auditory style exhibits an insignificant relationship with behavioral engagement (r=-0.171), affective engagement (r=-0.138), and social engagement (r=0.142). This indicates that, regardless of their high listening skills in class, it does not impact their behavior, affective engagement, and social engagement during class.

The overall findings demonstrate significant and negative correlations between learning style and academic engagement. This implies that higher emphasis on specific

learning styles correlates with lower levels of engagement. Consequently, the preferred learning styles of Noveleta Senior High School students may negatively affect their academic engagement. This result contrasts with the study

of Halif *et al.* (2020), which found an insignificant relationship between learning styles and academic engagement.

**Table 4.3:** Relationship between Learners' Motivation and Learning Styles

Correlation Matrix												
	1	2	3	4	5	6	7	8	9			
Intrinsic	—											
Extrinsic	0.549***	—										
Task value	0.580***	0.621***	—									
Control of learning beliefs	0.610***	0.523***	0.630***	—								
Self-efficacy for learning and performance	0.604***	0.620***	0.671***	0.552***	—							
Test anxiety	0.472***	0.371***	0.362***	0.445***	0.451***	—						
Visual	0.425***	0.280**	0.427***	0.458***	0.511***	0.404***	—					
Auditory	0.461***	0.337***	0.350***	0.423***	0.467***	0.404***	0.622***	—				
Kinesthetic	0.399***	0.246**	0.176	0.263**	0.328***	0.364***	0.513***	0.538***	—			

Note. \* p < .05, \*\* p < .01, \*\*\* p < .001

Table 4.3 provides a correlation matrix depicting the associations between various dimensions of learners' motivation and learning styles. Each cell in the table contains a correlation coefficient (r) representing the strength and direction of the relationship between the respective pairs of variables.

Intrinsic motivation exhibits a positive correlation with extrinsic motivation (r=0.549, p<.001), indicating a robust relationship between intrinsic and extrinsic motivation. Task value shows a strong positive correlation with intrinsic (r=0.580, p<.001) and extrinsic motivation (r=0.621, p<.001), signifying that learners with high intrinsic and extrinsic motivation can perceive the contents of their tasks effectively. Control of learning belief demonstrates a positive correlation with intrinsic (r=0.610, p<.001), extrinsic (r=0.523, p<.001), and task value (r=0.630, p<.001), suggesting that learners with high confidence in performing well in class also exhibit high intrinsic, extrinsic, and task-value motivation.

Self-efficacy for learning and performance shows positive and significant correlations with intrinsic (r=0.604, p<.001), extrinsic (r=0.620, p<.001), task value (r=0.671, p<.001), and control of learning beliefs (r=0.552, p<.001). This indicates that learners with a high capacity to finish their tasks also demonstrate high intrinsic, extrinsic, task value, and control of learning beliefs.

Test anxiety exhibits a positive significant correlation with all dimensions of learners' motivation: intrinsic (r=0.472, p<.001), extrinsic (r=-0.371, p<.001), task value (r=0.362, p<.001), control of learning beliefs (r=0.445, p<.001), and self-efficacy for learning and performance (r=0.451, p<.001). This suggests that higher fear of failing exams is associated with increased consideration of intrinsic, extrinsic, task value, control of learning beliefs, and self-efficacy for learning and performance.

The results highlight a strong relationship between learners' motivation and learning styles. Nearly all factors of learners' motivation (intrinsic, extrinsic, control of learning beliefs, and self-efficacy for learning and performance) are strongly and positively correlated with the students' preferred learning styles. However, task value and kinesthetic learning style do not exhibit a significant correlation, suggesting that task value does not affect the students' kinesthetic learning style. Overall, the findings indicate that highly motivated

students are more likely to effectively utilize their preferred learning styles. This aligns with the study of Jamian *et al.* (2022), which also found a significant relationship between learners' motivation and learning styles.

**Conclusion**

The study conducted at Noveleta Senior High School yielded valuable insights into the intricate interplay between learners' motivation, learning styles, and academic engagement. Employing a quantitative methodology with correlation coefficients to quantify relationships, the following conclusions emerge: The motivational landscape among students is multifaceted. Intrinsic motivation exhibits a robust positive correlation with extrinsic motivation, task value, control of learning beliefs, and self-efficacy for learning and performance. However, extrinsic motivation shows a moderate negative relationship with academic engagement, suggesting a nuanced connection between external incentives and active participation in academic pursuits.

The perceived value of tasks strongly influences motivational aspects, as task value demonstrates positive correlations with intrinsic and extrinsic motivation, control of learning beliefs, and self-efficacy for learning and performance. This underscores the importance of how students perceive the relevance and significance of academic tasks in driving their motivation. Test anxiety, a facet of motivation, exhibits a noteworthy positive correlation with various motivational dimensions. Students experiencing higher test anxiety tend to report lower intrinsic and extrinsic motivation, task value, control of learning beliefs, and self-efficacy for learning and performance.

The exploration of learning styles highlights distinct preferences among students at Noveleta Senior High School. Visual learning styles positively correlate with academic engagement, suggesting that students who prefer visual aids in their learning process may exhibit higher behavioral, affective, and social engagement. The analysis of the correlation matrix demonstrates intricate connections between motivational factors and learning styles. In particular, a strong positive relationship exists between learners' motivation and various learning styles, emphasizing the impact of motivation on the preferred approaches students adopt for learning.



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