High School Students' Learning Style Preferences and Level of Academic Achievement: A Cross-Sectional Study

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Abstract

Learning is the ultimate goal of man's survival, and the main reason why teachers exist is to direct learners to achieve it appropriately. This study assesses the learning style preferences and level of academic achievement of high school students in Muertegui National High School regarding demographic profile. Understanding how students learn is essential for improving educational outcomes. The research employed a descriptive cross-sectional design, surveying 260 students to assess their demographic profiles, learning style preferences, and academic performance. Key findings indicated that students preferred visual and auditory learning styles, with age, gender, and grade level significantly influencing these preferences. Younger students showed a tendency towards visual and auditory learning, while older students favoured visual learning. Additionally, males preferred practical, hands-on activities, whereas females leaned towards collaborative and verbal-based learning. Despite these preferences, the study found no direct correlation between learning styles and academic achievement, suggesting that effective teaching should incorporate a variety of methods to engage diverse learning needs. The results highlight the importance of tailoring instructional strategies to accommodate evolving learning preferences as students progress through high school. It was recommended to conduct a similar study that explores the impact of specific learning strategies on academic performance, the role of learning styles in student motivation and engagement, and the effectiveness of different approaches to teaching students with diverse learning styles.

Keywords: academic achievement, high school students, learning style, preferences, student performance

Introduction

Learning styles are essential in the learning process to achieve the final result; each student has a different learning style (Wanyudin & Rido, 2020). Some students quickly obtain information through various means, such as reading, writing, and listening. According to Norasia (2015), learning style is a method that describes how people pick up new information and focus on complicated processes.

Learning styles might be astounding regarding their methods for gathering and analyzing information. Research indicates that people digest information differently and according to different preferences. These preferences are known as learning styles and are used to identify and understand people's learning styles (Chach, 2022). While some people learn best when they are actively involved and interacting with other people, they have different ways of learning; thus, no particular strategies in approach were able to produce the best learning conditions for everyone. Cavile and

Gonzaga, (2023) study shows that because everyone learns differently, no technique or method has been able to provide the ideal learning environment for everyone differences in the students' background goals, degrees of motivation level and study method.

In the specific case of Muertegui National High School in San Isidro, Leyte, local studies have yet to explore the interaction of learning style preferences and academic achievement. This study aims to fill this gap by investigating the learning styles of students at this school and their impact on academic success. By understanding how students learning preferences correlate with their performance in various subjects, educators can tailor their teaching methods to improve overall academic achievement. Furthermore, it could provide a model for rural schools across the Philippines, where educational interventions are often generalized and may not always take local learning preferences into account.

Research in this area could also contribute to global discussion on educational reform, as it emphasizes the importance of personalize learning. According to research by Bansilal (2015), personalized education, which accounts for student learning styles, has been shown to increase engagement and academic achievement, particularly in subjects such as mathematics and science. Additionally, findings from Dizon and Lumapenet (2023) suggest that understanding students' learning preferences allows teachers to create more dynamic and interactive learning environments, improving students' motivation and achievement levels.

This study aims to deepen the understanding of the relationship between student's preferred learning styles and academic achievement. It is also intended to help educators better understand the unique learning characteristics of their students. Understanding students' preferred learning styles will positively impact their academic achievement, and it can also assist teachers and other educators in developing lessons that will improve student achievement.

Methodology

This chapter outlines the research design and methodology employed to investigate this study. This section delves into the specific procedures undertaken to collect and analyze data, ensuring the reliability and validity of the findings.

Research Design

The study utilized a descriptive non-experimental, specifically a cross-sectional design, to determine the learning style preferences and level of academic achievement of high school students. Simkus (2021) defined cross-sectional study as a type of observational study, or descriptive research, which involves analyzing information about a population at a specific point in time.

Research Locale

The researchers conducted the study in Muertegui National High School, a secondary public school located at Brgy. Daja Diot, in the Municipality of San Isidro, Leyte. The school was located seven meters away residing from the school of nearby barangays such as Bgy. Daja Daku, Brgy. San Jose, Brgy. Taglawigan, Brgy. Matungao and Brgy. Punod. Philippines.

Respondents and Sampling Technique

The respondents of the study were high school students enrolled in Muertegui National High School during the 2024-2025 school year. The study involved high school students from grades 7 to 12, both males and females. A stratified random sampling technique was used to select the respondents, employing Slovin's formula with a 5% margin of error. The computed sample size was 260 out of 738 high school students.

Table 1. Sample Size Computation and Representation

Grade Level	Population Size	Sample Size	Number of Section	Sample Size Per Section
7	145	52	3	17
8	118	41	3	13
9	115	41	3	13
10	129	44	3	15
11	121	42	3	14
12	110	39	3	13
Total	**738**	**259**	**18**	

Research Instrument

The instrument used in this study was a survey questionnaire adapted from Rey Miralles and Jerald Cano-Og Moneva (2018). The researchers obtained permission from the authors to use their survey questionnaire via email before administering it to the respondents. Part one of the question-naire focused on the demographic profile of the respondents, gathering data on Age, Sex, and grade level. Part two included statements designed to determine learning style preferences, also adapted from Rey Miralles and Jerald Cano-Og Moneva (2018). The survey consisted of 24 statements, with a response scale of 3 - Often True, 2 - Sometimes True, and 1 - Seldom True. The survey question-naire was well-structured to clearly identify and measure the critical variables.

Data Gathering Procedure

Before collecting any data, the researchers sent a letter addressed to the school head request-ing the approval in conducting the study, including the need for pilot testing. With consent from the participants and classroom adviser, the researchers distributed the printed survey questionnaire to the intended respondents. Then, the researchers conducted a room to room survey inside the school campus. After the data gathering, the researchers tallied the answered survey questionnaire of the respondents, the data was entered and tabulated on MS Excel. The researchers used the data coding to change the qualitative response of the response of the respondents into numerical value base on the Likert scale of agreement. Before the data analysis, the process of data cleaning was done by double checking to find errors and correct them before the data analysis. Furthermore, the research-ers explained their study and gave further instructions regarding to the statement in the survey ques-tionnaire, into vernacular language to ensure the respondents could easily understand.

Data Scoring and Interpretation

The interpretation of means was be based on the following:

Scale	Range	Response Choice	Interpretation
3	2.50-3.00	Often True	Major Learning Style Preference
2	1.50-2.49	Sometimes True	Minor Learning Style Preference
1	1.00-1.49	Seldom True	Negligible

1st Quarter Average

90-100	Outstanding
85-89	Very Satisfactorily
80-84	Satisfactorily
75-79	Fairly Satisfactorily
Below 74	Did Not Meet the Expectations

Data Analysis Procedure

The data gathered from research questions one, two, three four and five were statistically analyzed using descriptive-statistics, such as frequency, percentage, standard deviation, mean, and average were used to summarize the respondents' demographic profile and learning style preferences. The learning styles were categorized as major, minor, or negligible based on weighted mean scores. Inferential statistics, specifically ANOVA, were applied to test for significant differences in learning style preferences across Age, Sex, and grade levels, with a significance threshold of 0.05. Prior to analysis, data cleaning was performed to address any inconsistencies or missing responses, ensuring the integrity of the dataset. The data gathered were processed using IBM-Statistical Packages for Social Sciences (SPSS) v27.

Ethical Consideration

An informed consent was given to the participants before they received the survey questions. The researchers informed them about the content of the questions, their importance, and how the data would be used in the study. Participants were made aware from the start that they were free to withdraw at any time. Anonymity and confidentiality were observed by not revealing respondents' names during data collection and analysis. Only the researchers had access to personal identification and demographic data. The researchers avoided forcing participants to provide information.

Results and Discussion

This chapter presents the demographic profile, discussion and the interpretation of the data collected based on the survey questionnaires answered by the senior high school students who are part in this study and currently studying at Muertegui National High School.

Table 2. Demographic Profile of the Respondents

Profile	*f*	%
Age		
12-13	82	32%
14-15	87	33%
16-17	83	32%
18-19	8	3%
20 Above	0	0
Total	**260**	**100%**
Sex		
Male	106	41%
Female	154	59%
Total	260	100%
Grade Level		
Grade 7	52	20%
Grade 8	41	16%
Grade 9	41	16%
Grade 10	44	17%
Grade 11	43	16%
Grade 12	39	15%
Total	260	100%

Profile	*f*	%
1st Quarter Average		
90-100	61	24%
85-89	135	52%
80-84	53	20%
75-79	11	4%
Below 74	0	0
Total	**260**	**100%**

Table 2 shows the demographic profile of the respondents in terms their age. Distribution of respondents is relatively even among of the 12 to13 years (32%), 14 to 15 years (33%), and 16 to 17 years (32%), with only a small percentage (3%) in the 18 to 19 years category and none aged 20 and above. This even spread indicates a balanced representation of students across early and middle adolescence, typical of high school students. The minimal number of respondents in the 18 to 19 range might indicate that most students in this age group have already transitioned to higher education or the workforce. This balanced representation is beneficial as it provides diverse perspectives across key developmental stages in adolescence, which may influence their academic and social experiences.

In terms of gender shows a higher proportion of female respondents (59%) compared to males (41%). This distribution reflects a moderate gender imbalance, which could influence certain aspects of the study, especially if gender-specific behaviors or academic tendencies are analyzed. Females may have been more willing to participate in the study, which aligns with broader trends in educational research. The interpretation of findings should take this imbalance into account, particularly in contexts where gender might play a significant role in attitudes, behaviors, or outcomes.

Moreover in terms of grade level distribution reveals a consistent representation across all levels, with Grade 7 accounting for the largest percentage (20%) and Grade 12 the smallest (15%). And the grade Grade 8 (16%), Grade 9 (16%), Grade 10 (17%), and Grade 11 (16%) show minimal variation. This balanced representation is essential for ensuring the reliability of results across different stages of high school students. However, the slight decline in the higher grades may reflect common trends in student attrition or dropouts, which can result from various factors such as academic challenges, financial constraints, or personal circumstances. This trend underlines the need for support mechanisms to ensure students successfully complete their education.

Regarding to their academic performance data reveals that more than half of the respondents (52%) achieved grades in the 85-89 range, with 24% scoring 90-100 and 20% achieving 80-84. Only 4% of respondents had grades in the 75-79 range, and none fell below 74. These results indicate that the majority of respondents are performing well academically, which may point to effective teaching methods, supportive learning environments, or high levels of student motivation. However, the small percentage of lower-performing students emphasizes the need to investigate and address factors that may hinder academic success, such as learning difficulties or lack of access to resources.

This demographic profile highlights the diversity and academic standing of the respondents, providing a solid foundation for interpreting the study's findings. The even distribution in most categories and the high academic performance suggest a population that is representative and academically engaged.

Table 3.1. Students Learning Styles Preference among High School Students in Muertegui National High School Based on their Age

Age	Learning style	Mean	Interpretation
12-13	Visual	2.29	Minor Learning Style Preference
	Auditory	2.25	Minor Learning Style Preference
	Kinesthetic	2.15	Minor Learning Style Preference
14-15	Visual	2.26	Minor Learning Style Preference
	Auditory	2.24	Minor Learning Style Preference
	Kinesthetic	2.07	Minor Learning Style Preference
16-17	Visual	2.25	Minor Learning Style Preference
	Auditory	2.24	Minor Learning Style Preference
	Kinesthetic	2.10	Minor Learning Style Preference
18-19	Visual	2.5	Major Learning Style Preference
	Auditory	2.41	Minor Learning Style Preference
	Kinesthetic	2.14	Minor Learning Style Preference

Table 3.1 shows the students aged 12 to 13 at Muertegui National High School, visual learning (M = 2.29) is slightly preferred compared to auditory learning (M= 2.25), with kinesthetic learning receiving the lowest score (M = 2.15). These results suggest that while students in this age group show a tendency toward visual and auditory learning, kinesthetic activities are not as prominent in their learning preferences. This could be due to the fact that younger students are more reliant on reading materials and oral explanations from teachers, rather than engaging in hands-on, interactive activities. These findings imply that instructional strategies at this Age should emphasize visual aids and auditory learning techniques, while still integrating kinesthetic elements to support different learning needs.

Regarding in terms of aged 14 to 15 years group, visual learning (M= 2.26) remains the most preferred style, closely followed by auditory learning (M= 2.24), while kinesthetic learning continues to be the least preferred modality (M= 2.07). The preference for visual learning is consistent across these age groups, reflecting the continued reliance on visual aids such as written content, charts, and graphs. The small difference between visual and auditory preferences in this group suggests that students are increasingly receptive to both visual and auditory learning, though kinesthetic approaches still play a minor role in their educational experiences. Educators should continue to use visual and auditory instructional strategies while exploring opportunities for hands-on learning to support students' kinesthetic needs.

Moreover in terms for students aged 16-17 years the trend of preferring visual learning (M= 2.25) over auditory (M= 2.24) and kinesthetic (M= 2.10) continues, with minimal variation in learning preferences between the three modalities. This consistency suggests that students in this age group are refining their learning preferences but still favor visual and auditory modes over kinesthetic methods. These findings could be attributed to the academic demands of this age group, where more abstract and complex materials are introduced, often presented through visual aids and oral lectures. Therefore, educators should prioritize visual and auditory methods, while still integrating kinesthetic elements in practical applications or extracurricular activities.

Further in terms for aged 18-19 years group, a significant shift occurs, with visual learning emerging as the Major Learning Style Preference (M= 2.50), followed by auditory learning (M=

2.41), and kinesthetic learning (M= 2.14). The increased preference for visual learning in this age group could be attributed to the more advanced learning materials and the prevalence of visual content such as diagrams, charts, and digital media in higher-level academic work. While auditory and kinesthetic learning are still important, visual learning has become the dominant mode of information processing at this stage. This shift indicates that, as students mature, their learning preferences evolve to prioritize visual aids, which should be considered when designing instructional strategies for this age group.

Furthermore, the findings suggest that as students progress through their high school years, there is a noticeable shift in learning preferences, with visual learning becoming more pronounced, especially in the later years. This underscores the importance of adjusting instructional strategies to match these evolving preferences. Educators should continue using multimodal teaching approaches, focusing on visual and auditory strategies for younger students, while incorporating more advanced visual learning tools for older students. Moreover, kinesthetic methods, although less preferred, should still be included to ensure a holistic learning experience that addresses the needs of all students.

This study provides valuable insights into the learning style preferences of students at Muertegui National High School. Replicating this research in other schools or regions could validate these trends and offer a broader understanding of age-related shifts in learning style preferences. Additionally, future research could explore the impact of these preferences on academic performance, as suggested by Miralles and Moneva (2018), to determine whether tailoring teaching strategies to match students' preferred learning styles enhances educational outcomes. By examining these relationships, future studies can inform best practices for instructional design across different educational settings.

Table 3.2. Students Learning Styles Preference among High School Students in Muertegui National High School Based on their Sex

Sex	Learning style	Mean	Interpretation
Male	Visual	2.26	Minor Learning Style Preference
	Auditory	2.27	Minor Learning Style Preference
	Kinesthetic	2.19	Minor Learning Style Preference
Female	Visual	2.28	Minor Learning Style Preference
	Auditory	2.23	Minor Learning Style Preference
	Kinesthetic	2.06	Minor Learning Style Preference

Table 3.2 shows that both male and female students at Muertegui National High School perceive Minor Learning Style Preference for visual, auditory, and kinesthetic modalities, with males slightly favoring auditory learning (M= 2.27) compared to visual (M= 2.26) and kinesthetic (M= 2.19), while females show a minor preference for visual learning (mean = 2.28) over auditory (M= 2.23) and kinesthetic (M= 2.06). These subtle differences suggest that while gender-based variations in learning preferences exist, they are not significant enough to specify academic outcomes, as highlighted by Miralles and Moneva (2018), who found no strong association between learning styles and academic performance. These findings imply the need for a multimodal teaching approach that integrates visual aids, auditory resources, and hands-on activities to accommodate diverse preferences across genders. Replicating this study in other educational contexts.

Table 3.3. Students learning styles preference among high school students in Muertegui National High School based on their Grade Level

Grade Level	Learning style	Mean	Interpretation
Grade 7	Visual	2.28	Minor Learning Style Preference
	Auditory	2.29	Minor Learning Style Preference
	Kinesthetic	2.16	Minor Learning Style Preference
Grade 8	Visual	2.29	Minor Learning Style Preference
	Auditory	2.22	Minor Learning Style Preference
	Kinesthetic	2.16	Minor Learning Style Preference
Grade 9	Visual	2.34	Minor Learning Style Preference
	Auditory	2.25	Minor Learning Style Preference
	Kinesthetic	2.09	Minor Learning Style Preference
Grade 10	Visual	2.19	Minor Learning Style Preference
	Auditory	2.25	Minor Learning Style Preference
	Kinesthetic	2.04	Minor Learning Style Preference
Grade 11	Visual	2.29	Minor Learning Style Preference
	Auditory	2.24	Minor Learning Style Preference
	Kinesthetic	2.14	Minor Learning Style Preference
Grade 12	Visual	2.24	Minor Learning Style Preference
	Auditory	2.24	Minor Learning Style Preference
	Kinesthetic	2.06	Minor Learning Style Preference

Table 3.3 shows the consistent pattern of minor learning style preferences across all grade levels in Muertegui National High School. Each grade level demonstrates balanced preferences among visual, auditory, and kinesthetic learning styles, highlighting the diversity in how students process and acquire knowledge. In terms of Grade 7 students exhibit a mean score of (M=2.28) for visual, (M-2.29) for auditory, and (M=2.16) for kinesthetic learning styles, all classified as minor preferences. This suggests that these students might benefit from teaching strategies that combine visual aids, discussions, and hands-on activities. Rey Miralles and Jerald Cano-Og Moneva (2018) highlight the importance of aligning instructional strategies with diverse learning styles to foster engagement and retention of knowledge.

The mean scores for Grade 8 learners are (M=2.29) visual,(M= 2.22) auditory, and(M= 2.16) kinesthetic, maintaining the trend of minor preferences. This balanced distribution underscores the need for multimodal teaching approaches, such as interactive visual presentations supplemented with auditory instructions and practical exercises. Incorporating such methods supports student-centered learning, as suggested by Nzesei (2015), who found that diverse learning preferences significantly enhance educational outcomes.

Further more in terms in Grade 9 students show slightly higher scores for visual (M=2.34) and auditory (M=2.25) compared to kinesthetic (M=2.09). The marginal increase in visual preference indicates a growing reliance on visual tools such as graphs and charts. As academic tasks become more complex, leveraging visual instructional materials can enhance comprehension, supporting findings by Fayombo (2015) that visual learning strategies positively impact academic performance.

For Grade 10 students, mean scores are (M=2.19) visual, (M= 2.25) auditory, and (M=2.04) kinesthetic. The slight emphasis on auditory learning suggests that students may increasingly rely on

lectures and discussions. As Chermahini et al., (2013) note, auditory approaches can support deeper understanding, particularly when complemented with other modalities.

Moreover Grade 11 students demonstrate a balanced preference, with mean scores of (M=2.29) visual, (M=2.24) auditory, and (M=2.14) kinesthetic. This uniformity highlights the importance of adaptive teaching strategies that address all three learning styles, aligning with Ishak and Awang's (2017) recommendation for diverse teaching methods to cater to student preferences

Finally, Grade 12 learners score (M= 2.24) for both visual and auditory, and (M=2.06) for kinesthetic styles. This consistent pattern affirms the necessity of maintaining a multimodal instructional approach throughout the academic journey. As Mohamed (2013) proposed, combining cognitive frameworks with varied learning styles ensures effective knowledge acquisition

The findings imply that teaching practices should remain flexible and inclusive, catering to the diverse preferences of students across grade levels. Differentiated instruction, which integrates visual, auditory, and kinesthetic elements, is essential to fostering a holistic and engaging learning environment. Furthermore, educators should be encouraged to regularly assess and adapt their methods to align with the evolving needs of their students.

Table 4. Students Learning Styles Prevalent among High School Students in Muertegui National High School

Learning Style	AWM	SD	Interpretation
Visual	2.3	0.69	Minor Learning Style Preference
Auditory	2.3	0.70	Minor Learning Style Preference
Kinesthetic	2.1	0.73	Minor Learning Style Preference

Table 4 shows a minor preference in visual auditory and kinesthetic learning style for visual (M=2.27, SD=0.69), Auditory (M=2.25, SD=0.70), and kinesthetic (M=2.11, SD=0.73). This indicates that students engage almost equally with visual and auditory learning methods, reflecting the influence of traditional instructional strategies that prioritize reading materials, visual aids, and verbal explanations. The lower preference for kinesthetic learning might stem from fewer opportunities for hands-on activities or experiential learning in the typical classroom setup. These findings align with Miralles and Moneva's (2018) assertion that learning style preferences, while informative for instructional design, do not necessarily forecast academic performance. This study suggests the need for multimodal teaching approaches, ensuring the integration of visual and auditory and strategies alongside kinesthetic activities to support diverse learning needs. Future studies replicating this research, following Miralles and Moneva (20218) methodology, could explore whether tailoring instructional methods to prevalent learning styles enhances student engagement and fosters improved academic outcomes across different educational contexts.

Table 5. The level of Academic Achievement among High School Students in Muertegui National High School

1st Quarter Average	Learning Style	Interpretation	*f*	%
90-100	Visual	Outstanding	26	10%
	Auditory		33	13%
	Kinesthetic		2	1%
85-89	Visual	Very satisfac-	51	20%

1st Quarter Average	Learning Style	Interpretation	f	%
	Auditory	tory	59	23%
	Kinesthetic		25	10%
82-84	Visual	satisfactory	18	7%
	Auditory		20	8%
	Kinesthetic		15	6%
75-79	Visual	Fairly Satis-factory	2	1%
	Auditory		6	2%
	Kinesthetic		3	1%
Total			260	100%

Table 5 shows that the auditory and visual learners outperform kinesthetic learners, with auditory learners achieving the highest percentages of "Outstanding" (13%) and "Very Satisfactory" (23%) grades, followed closely by visual learners at 10% and 20%, respectively, while kinesthetic learners trail behind. This trend aligns with findings by Miralles and Moneva (2018), which suggest that traditional instructional methods favor auditory and visual styles over kinesthetic approaches, potentially explaining the lower performance of kinesthetic learners. The minimal representation of kinesthetic learners in higher achievement brackets highlights a mismatch between their preferences and the prevalent learning strategies. This underscores the need for inclusive instructional methods that incorporate kinesthetic activities, such as hands-on projects and role-plays, to better support these learners. Furthermore, combining visual, auditory, and kinesthetic strategies could foster a more balanced and engaging learning environment, benefiting all students and addressing diverse learning needs.

Table 6. Significant Difference in terms of their Age in their Learning Style among High School Students in Muertegui National High School

Source of Variation	df	F	P-value	F-crit
Between Groups	18	14.52	0.00	1.61
Within Groups	4939			

Table 6 shows a statistically significant difference in learning based on Age. With an F-value of 14.52 and a *p*-value of 0.00, which is well below the significance level of 0.05, the null hypothesis is rejected, suggesting that Age does indeed influence the preferred learning styles of students. The F-crit value of 1.61 further confirms that the observed variance between the groups is greater than what would be expected due to random chance. These findings imply that as students age, their learning preferences may evolve, potentially due to cognitive, emotional, and social development. This underscores the importance of tailoring instructional strategies to accommodate the diverse learning styles across different age groups, ensuring more effective learning experiences for all students. Educators should consider age-specific approaches to enhance engagement and learning outcomes, particularly when designing curricula or interventions that address varying developmental stages.

Table 7 shows a statistically significant difference in learning styles based on Sex, with an F-value of 14.53 and a *p*-value of 0.00, both of which indicate that Sex is a significant factor influencing students' learning preferences. The calculated F-value exceeds the critical value of 1.61, con-

firming that the observed differences in learning styles between male and female students are not due to chance. This suggests that male and female students may have distinct cognitive, social, or emotional approaches to learning. This findings is that student learning should recognize and accommodate these differences in learning preferences when designing instructional strategies. For instance, male students may tend to prefer more hands-on, practical learning experiences, while female students might favor collaborative or verbal-based learning activities. Understanding these variations can guide the development of more inclusive learning methods that cater to the unique needs of each Sex, ultimately enhancing engagement and improving educational outcomes for all students.

Table 7. **Significant Difference in terms of their Sex in their Learning Style among High School Students in Muertegui National High School**

Source of Variation	*df*	F	*P*-value	F-crit
Between Groups	18	14.53	0.00	1.61
Within Groups	4921			

Table 8. **Significant Difference in terms of their Grade Level in their Learning Style among High School Students in Muertegui National High School**

Source of Variation	*df*	F	*P*-value	F-crit
Between Groups	18	14.52	0.00	1.61
Within Groups	4921			

Table 8 shows a statistically significant difference in learning styles based on grade level. With an F-value of 14.52, with a p-value of 0.00, clearly suggests that grade level plays a significant role in shaping students' learning preferences, as the p-value is well below the conventional threshold of 0.05. Additionally, the F-value exceeds the critical value of 1.61, confirming that the differences observed between grade levels are unlikely to be due to random chance. This finding implies that as students progress through high school, their learning styles may evolve due to factors such as cognitive development, exposure to more complex content, and increased independence in learning. These results are that learning strategies should be tailored to accommodate the changing needs of students as they advance in their academic journey.

Conclusion

Learning style is the unique way individuals process and retain information, which plays a crucial role in educational success. This study, conducted at Muertegui National High School in the Philippines, explored the learning style preferences of high school students and their relationship to academic achievement. The findings revealed a relatively even distribution of students across age groups, with a slight majority of female participants. While academic performance was generally high, the study found that students across all demographics exhibited minor preferences for all three learning styles: visual, auditory, and kinesthetic, with a slight emphasis on visual learning in middle grades. The study suggests that a multimodal approach incorporating visual aids, auditory explanations, and hands-on activities is essential for catering to diverse learning needs. Notably, statistically significant differences in learning styles based on Age, Sex, and grade level highlight the importance of adapting instructional strategies to accommodate evolving preferences. These findings, while specific to Muertegui National High School, offer valuable insights into the learning land-

scape of Filipino high school students and underscore the need for further research into the impact of learning styles on academic performance.

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