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Study Habits, Learning Styles and Performance in Music, Arts, Physical Education and Health (MAPEH) among Junior High School Learners

Darwina B. Castillo[1], Dr. Gail G. Gumilet[2]
[1]Master of Arts in Education – MAPEH, Nueva Vizcaya State University - Bayombong Campus, Bayombong, Nueva Vizcaya, Philippines
[2]Associate Professor III, Culture and Arts Education Department, College of Teacher Education, Nueva Vizcaya State University, Bayombong, Nueva Vizcaya, Philippines

Email: ammonihah09@gmail.com

ABSTRACT

This study examined the relationships among study habits, learning-style preferences, and academic performance in Music, Arts, Physical Education, and Health (MAPEH) among Grade 10 learners of Solano High School, Nueva Vizcaya, Philippines, during School Year 2025–2026. Anchored in Kolb's Experiential Learning Theory and Biggs' Presage–Process–Product Model, the study employed a quantitative descriptive-correlational research design involving 300 learners selected through stratified random sampling. Data were collected using an expert-validated, researcher-made questionnaire and official first-quarter MAPEH grades, with descriptive statistics and Pearson's product-moment correlation used for analysis. Findings revealed high levels of study habits (M = 3.01) and learning-style preferences (M = 3.06), with concentration and interest emerging as the strongest study-habit dimension and tactile learning as the most preferred modality. Academic performance yielded a mean grade of 86.58, with most respondents attaining outstanding or very satisfactory ratings. A significant moderate positive relationship was established between study habits and learning styles ($r = 0.635$, $p < 0.001$). However, study habits ($r = 0.277$, $p < 0.001$) and learning styles ($r = 0.135$, $p = 0.019$) demonstrated statistically significant but negligible positive relationships with academic performance. Visual and auditory preferences showed significant positive correlations with academic achievement, whereas tactile and kinesthetic preferences showed no significant relationships. The study concludes that study habits and learning preferences have limited associations with MAPEH performance, highlighting the need for improved study routines, diverse instructional strategies, and further investigation of other contributing factors. The research supports Sustainable Development Goal 4 (Quality Education) and indirectly contributes to SDG 3 (Good Health and Well-Being). Its potential sustainability impact lies in strengthening educational practices, supporting evidence-based instructional improvement, and promoting long-term educational and institutional development.

Keywords: *Academic Performance, Educational Sustainability, Learning-Style Preferences, MAPEH, Study Habits, Sustainable Development Goals, Teaching Strategies*

1. INTRODUCTION

Music, Arts, Physical Education, and Health (MAPEH) is an interdisciplinary learning area that promotes students' cognitive, creative, physical, and health-related competencies. Academic performance in MAPEH may be associated with several learner-related factors, particularly study habits, learning preferences, motivation, and access to learning resources. Labrado et al. (2022) identified challenges involving learning environments, instructional resources, and independent learning among junior high school students studying MAPEH. Similarly, Dime and Pasion (2025) emphasized the relevance of learner interest, instructional resources, and classroom conditions to MAPEH performance. Study habits involve behaviors such as planning, concentrating, reviewing lessons, using learning materials, and assimilating information. Philippine studies have examined associations between these practices and academic achievement (Barcenas & Bibon, 2022; Castillo et al., 2023). Meanwhile, learning-style preferences describe students' reported tendencies toward visual, auditory, tactile, or kinesthetic learning experiences. However, current evidence does not sufficiently justify the assumption that matching instruction to a preferred learning style consistently improves achievement (Clinton-Lisell & Litzinger, 2024). Considering the theoretical and performance-based requirements of MAPEH, understanding how study habits and learning preferences relate to academic achievement may support more responsive instructional planning. Accordingly, this study examines these variables among Grade 10 learners of Solano High School during School Year 2025–2026.

Research Problem

Academic achievement in MAPEH requires learners to demonstrate knowledge and practical competencies across four interconnected disciplines. While existing research has examined students' academic behaviors and learning preferences, further investigation is needed to understand their relationships within the specific context of Grade 10 MAPEH education. Barcenas and Bibon (2022) identified the relevance of study practices, including lesson review, preparation, and concentration, to students' academic performance. Castillo et al. (2023) also investigated study habits and achievement in blended learning environments. Furthermore, Dakay et al. (2023) examined learning preferences and Mathematics performance among junior high school learners, demonstrating the importance of studying these characteristics within specific educational contexts. Recent MAPEH-related research provides additional perspectives. Jongko et al. (2024) emphasized the importance of appropriate learning resources in attaining MAPEH learning objectives, while Batonghinog and Osias (2025) investigated learning-style practices and proficiency among elementary learners. Nevertheless, findings involving different grade levels and subject areas cannot automatically be generalized to Grade 10 students. The central research problem, therefore, concerns the relationships among study habits, reported learning-style preferences, and academic performance in MAPEH among Grade 10 learners of Solano High School. Addressing this problem may provide empirical evidence for improving students' study practices and developing responsive educational interventions without presuming causal relationships.

Assumptions of the Study

The study operates on the methodological assumption that students' reported study habits and learning preferences can be described using structured questionnaire responses, while academic performance in MAPEH can be represented by their official first-quarter grades for School Year 2025–2026. It further recognizes that students may demonstrate varying levels of study planning, concentration and interest, use of materials, content assimilation, and preferences for visual, auditory, tactile, and kinesthetic learning activities. The existence, direction, and strength of relationships among these variables must be established through statistical analysis rather than assumed in advance. Consistent with the original study, three null

hypotheses are examined: no significant relationship exists between study habits and learning styles; between study habits and academic performance; and between learning styles and academic performance in MAPEH.

Objectives of the Study

This study generally aims to examine the study habits, learning styles, and academic performance in Music, Arts, Physical Education, and Health (MAPEH) among Grade 10 learners of Solano High School during School Year 2025–2026. Specifically, it seeks to assess students' study habits in terms of study planning, concentration and interest, use of materials, and content assimilation; determine their learning-style preferences in terms of visual, auditory, tactile, and kinesthetic learning; and evaluate their academic performance in MAPEH based on their first-quarter grades. Furthermore, the study aims to determine the significant relationships between study habits and learning styles, between study habits and academic performance, and between learning styles and academic performance in MAPEH.

Theoretical or Conceptual Basis

The study is anchored in Kolb's Experiential Learning Theory and Biggs' Presage–Process–Product (3P) Model of Learning. These frameworks provide complementary perspectives for understanding learning experiences, academic behaviors, and educational outcomes. Kolb's Experiential Learning Theory explains learning as a process involving concrete experience, reflective observation, abstract conceptualization, and active experimentation. Stock et al. (2024) emphasized that meaningful experiential learning involves active participation, sensory engagement, attention, and involvement in learning experiences. This framework is applicable to MAPEH because its curriculum includes practical activities, creative expression, physical participation, reflection, and application of knowledge. Biggs' 3P Model explains learning through three interconnected components: presage, process, and product. Tan et al. (2024) demonstrated the applicability of the model in examining how learner characteristics and learning environments relate to learning approaches and academic performance. In the present study, students' reported learning preferences are considered presage characteristics; study habits represent learning processes; and first-quarter MAPEH grades represent the academic product. The conceptual framework identifies study habits and learning-style preferences as the principal independent variables and academic performance in MAPEH as the dependent variable. It also examines the relationship between the two independent variables. Importantly, visual, auditory, tactile, and kinesthetic categories are treated as reported learning preferences rather than fixed learner abilities. Clinton-Lisell and Litzinger (2024) found that evidence supporting instruction matched to individual learning styles was insufficient to justify widespread implementation. Accordingly, the study investigates these preferences empirically without assuming that any particular preference necessarily produces superior academic achievement. Together, the two frameworks provide a basis for examining how learning experiences and study-related behaviors are associated with MAPEH performance.

The study primarily supports Sustainable Development Goal 4 (Quality Education) by providing evidence to improve study habits, learner engagement, and instructional strategies, consistent with UNESCO's (2024) emphasis on educational quality. It also indirectly contributes to SDG 3 (Good Health and Well-Being) through MAPEH's promotion of physical activity and health awareness (World Health Organization, 2023; He et al., 2025). Overall, the study promotes educational and institutional sustainability through evidence-based instructional improvement and enhanced learning practices.

2. METHODOLOGY

Research Design

The study utilized a descriptive-correlational research design to assess learners' study habits, learning styles, and academic performance in MAPEH. The descriptive component examined students' characteristics and learning behaviors, while the correlational component determined the significant relationships between study habits and learning styles, study habits and academic performance, and learning styles and academic performance. The study employed a nonexperimental approach without manipulating the variables.

Research Locale or Study Setting

The study was conducted at Solano High School, located along General Luna Street, Barangay Quirino, Solano, Nueva Vizcaya, Philippines. The school was selected because of its substantial student population and diverse learner backgrounds, providing an appropriate setting for examining study habits, learning styles, and academic performance in MAPEH.

Participants or Data Sources

The respondents comprised 300 Grade 10 learners selected from a population of 632 students across 15 sections during School Year 2025–2026. Stratified random sampling was employed, using class sections as strata to ensure representation. Slovin's formula, with a 5% margin of error, yielded a minimum sample of 245 respondents; however, the sample was increased to 300 to improve representation. Academic performance was determined using students' official first-quarter MAPEH grades.

Research Instruments or Materials

A researcher-made questionnaire was utilized to assess study habits and learning styles. Study habits were measured through study planning, concentration and interest, use of materials, and content assimilation, while learning styles covered visual, auditory, tactile, and kinesthetic preferences. Each dimension consisted of five statements rated on a four-point Likert scale ranging from Very Low to Very High. The questionnaire underwent content validation by three experts in curriculum development and education, who evaluated its clarity, relevance, and appropriateness. After incorporating their recommendations, the instrument was pilot-tested among 30 learners from neighboring schools who were excluded from the actual respondents. Cronbach's alpha was used to assess internal consistency. Students' first-quarter MAPEH grades served as the measure of academic performance.

Data Gathering Procedure

The researcher secured permission from the Schools Division Superintendent, school administration, School Research Committee, and Division Research Committee before conducting the study. Parental consent was obtained because the respondents were minors. Following the required approvals, the validated questionnaires were administered to selected Grade 10 learners and retrieved on the agreed schedule. The collected responses were organized and encoded using Microsoft Excel and subsequently processed using the Statistical Package for the Social Sciences (SPSS) for statistical analysis.

Data Analysis

Descriptive and inferential statistics were employed to analyze the collected data. Frequency counts and percentages were used to describe respondents' demographic characteristics, while means determined the levels of study habits and learning-style preferences. Mean scores were interpreted using the following ranges: 3.26–4.00 (Very High), 2.51–3.25 (High), 1.76–2.50 (Low), and 1.00–1.75 (Very Low). Pearson's product-moment correlation coefficient (Pearson r) was

used to examine the relationships among study habits, learning styles, and academic performance in MAPEH. The predetermined correlation interpretation classified coefficients from 0.00–0.29 as negligible, 0.30–0.49 as low, 0.50–0.69 as moderate, 0.70–0.89 as high, and 0.90–1.00 as very high. Statistical analysis focused on determining the significance of relationships among the study variables.

Ethical Considerations

The study observed ethical safeguards involving institutional permissions, parental consent, confidentiality, and responsible data handling. Authorization was sought from the appropriate educational authorities and school administration before data collection. Since the participants were minors, parental consent was obtained before administering the questionnaires. All collected information was treated confidentially and used exclusively for the intended research purposes. Objectivity was maintained throughout data processing, analysis, and interpretation to ensure that the findings reflected the collected evidence.

3. RESULTS AND DISCUSSION

3.1 Teachers' Expenditure Patterns Study Habits of Grade 10 Learners

3.1.1 Study Planning

The respondents demonstrated a high level of study planning, with a composite mean of 2.92. Preparing early for MAPEH performance tasks obtained the highest mean (3.13), followed by prioritizing challenging topics (3.03). Preparing a study schedule received the lowest mean (2.74), although it remained within the high category. These findings indicate that learners generally demonstrate organizational readiness, particularly when preparing for performance-based assessments. However, formal scheduling was less frequently practiced than other planning behaviors. This finding is consistent with the importance of goal setting and academic planning discussed by Orji and Vassileva (2022), Castillo et al. (2023), and Rafiei et al. (2023).

3.1.2 Concentration and Interest

The respondents obtained a composite mean of 3.19, indicating a high level of concentration and interest. Enjoyment of MAPEH lessons recorded the highest mean (3.33), followed by persistence when lessons were difficult (3.32). Avoiding distractions received the lowest mean (3.00), while maintaining focus during study sessions obtained 3.14. The results suggest that learners demonstrate strong interest and persistence but have comparatively greater difficulty managing distractions. These findings support the importance of motivation and engagement discussed by Gula et al. (2022) and Vacaro (2022), while the challenges associated with concentration are consistent with Alido (2019) and Pérez-Juárez et al. (2024). Active learning activities may also help sustain interest, as discussed by Dou et al. (2022).

3.1.3 Use of Materials

The respondents demonstrated a high level of study habits related to the use of materials, with a composite mean of 2.96. Bringing and using necessary materials during MAPEH activities obtained the highest mean (3.27), followed by note-taking (3.09). The use of pictures, charts, and diagrams received the lowest mean (2.66), while the use of textbooks, videos, and online resources obtained 2.89. These findings indicate greater emphasis on preparing required classroom materials than independently using supplementary visual resources. Castillo et al. (2023) emphasized the importance of access to appropriate learning materials, while BMC Medical Education (2024) and Magulod Jr. (2019) discussed visual and graphical information in learning. The results also reflect the need for instructional resources that support conceptual understanding, as discussed by Alido (2019).

3.1.4 Content Assimilation

Content assimilation obtained a composite mean of 2.99, indicating a high level of practice. Practicing MAPEH skills, including dancing, drawing, and playing musical instruments, received the highest mean (3.23), followed by applying lessons to real-life situations (3.04). Asking questions to clarify difficult concepts obtained the lowest mean (2.82), followed by explaining concepts after studying (2.88). The findings suggest that learners are more inclined toward practical application than verbal explanation and conceptual questioning. This observation is consistent with the importance of experiential learning discussed by Escabusa and Luzano (2024). Nevertheless, the comparatively lower scores in questioning and explanation highlight areas for improvement in theoretical understanding, as discussed by Alido (2019). The Times of India (2025) also emphasized active recall and structured review as strategies for strengthening learning retention.

3.1.5 Overall Study Habits

The respondents obtained an overall composite mean of 3.01, indicating a high level of study habits. Concentration and interest recorded the highest mean (3.19), followed by content assimilation (2.99), use of materials (2.96), and study planning (2.92). All dimensions were classified as high. These findings indicate generally consistent study behaviors, with engagement and interest as the strongest dimensions. However, planning and resource utilization remained comparatively lower. The pattern is consistent with discussions of self-regulated learning and academic preparation (Rafiel et al., 2023), learner concentration (Preprints.org, 2024), and the importance of evaluating study practices for academic improvement, as emphasized by Jafari et al. (2019).

3.2 Learning Styles of Grade 10 Learners

3.2.1 Visual Learning

The respondents demonstrated a high level of visual learning preference, with a composite mean of 3.10. Understanding lessons through pictures and charts obtained the highest mean (3.30), followed by remembering written or illustrated information (3.25). Using posters, infographics, and other visual study tools received the lowest mean (2.77). The findings indicate that learners report benefiting from visual presentations but use self-prepared visual learning materials less frequently. Similar observations regarding visual learning preferences were discussed by Linca et al. (2024) and Jiang et al. (2022). The difference between reported preferences and study practices also relates to findings by Cuizon et al. (2022) and Paypa et al. (2024), emphasizing the role of appropriate instructional resources.

3.2.2 Auditory Learning

Auditory learning obtained a composite mean of 3.04, indicating a high level of preference. Remembering lessons when explained aloud received the highest mean (3.39), while enjoyment of lectures and discussions obtained 3.15. The use of audio resources, such as music and podcasts, recorded the lowest mean (2.77), followed by participation in group discussions (2.80). These findings suggest that learners report greater reliance on verbal explanations than independent audio resources or group discussions. This pattern is consistent with auditory learning preferences discussed by Linca et al. (2024). Altamimi et al. (2022) and Dzulkalnine et al. (2024) similarly examined learner characteristics and variations in instructional preferences.

3.2.3 Tactile Learning

The respondents demonstrated a high level of tactile learning preference, with a composite mean of 3.11. Learning through projects and creating materials obtained the highest mean (3.24), followed by writing notes or sketching (3.21) and participating in hands-on activities (3.19).

Creating visual models received the lowest mean (2.94). The results indicate a strong preference for practical, hands-on learning activities, particularly structured projects and note-taking. This finding is consistent with Cuizon et al. (2022), who examined tactile preferences and study patterns. Routledge (2024) and Dzulkalnine et al. (2024) also discussed the relevance of tactile learning activities and flexible instructional approaches.

3.2.4 Kinesthetic Learning

Kinesthetic learning obtained a composite mean of 2.98, indicating a high level of preference. Learning through physical activities received the highest mean (3.29), followed by understanding concepts through movement (3.07). Role-playing and incorporating movement during lesson review obtained the lowest means (2.79 each). These findings suggest that learners report stronger preferences for movement during structured MAPEH activities than during independent studying. Escabusa and Luzano (2024) discussed kinesthetic preferences in relation to academic achievement, while Pascu (2024) and Acta Psychologia (2025) examined movement-based learning and related classroom experiences. Bentil (2023) also considered the relationship between learning preferences, study habits, and academic success. However, the present descriptive findings do not independently establish anxiety or instructional mismatch.

3.2.5 Overall Learning Styles

The respondents obtained an overall composite mean of 3.06, indicating a high level of preference across all four learning modalities. Tactile learning obtained the highest mean (3.11), followed by visual learning (3.10), auditory learning (3.04), and kinesthetic learning (2.98). All learning modalities were classified as high. These findings indicate that respondents reported preferences across several learning modalities rather than exclusively identifying with one. This observation relates to discussions of differentiated instruction and flexible learning environments by Malacapay (2024), Taş and Minaz (2024), and Uyangoren and Ibojo (2024). ERIC (2025) and Science Publishing Group (2024) also discussed learning preferences in educational contexts. Nevertheless, preference ratings alone cannot establish the effectiveness of learning-style-based instruction.

3.3 Academic Performance in MAPEH

The academic performance of the 300 respondents yielded an overall mean grade of 86.58, with a standard deviation of 6.763. Among the respondents, 125 students (41.67%) obtained outstanding grades of 90–100, while 66 (22.00%) achieved very satisfactory grades of 85–89. Additionally, 61 students (20.33%) obtained satisfactory grades of 80–84, and 33 (11.00%) achieved fairly satisfactory grades of 75–79. The remaining 15 students (5.00%) received grades below 75 and did not meet expectations. The findings show that most learners attained passing grades, although differences in performance remained evident. The original discussion compared MAPEH performance with Tulabing (2018) and Alido (2019), particularly regarding variations in students' competencies. Gula et al. (2022) and Vacaro (2022) emphasized the relevance of motivation and supportive learning environments, while Labrado et al. (2022) identified challenges involving instructional resources. These factors provide possible contexts for understanding performance differences, although their direct effects were not established in the present study.

3.4 Relationships Among Study Habits, Learning Styles, and Academic Performance

3.4.1 Relationship Between Study Habits and Learning Styles

The findings revealed a statistically significant moderate positive relationship between overall study habits and learning styles ($r = 0.635$, $p < 0.001$). Content assimilation showed the strongest relationship with overall learning styles ($r = 0.604$), followed by concentration and interest ($r =$

0.499), use of materials (r = 0.488), and study planning (r = 0.465). All relationships were statistically significant (p < 0.001). Among the learning modalities, overall study habits were most strongly associated with auditory learning (r = 0.598), followed by visual (r = 0.558), tactile (r = 0.437), and kinesthetic learning (r = 0.361). The findings indicate that learners reporting stronger study habits also tended to report higher engagement with different learning modalities. This relationship is consistent with the study patterns discussed by Cuizon et al. (2022) and Magulod Jr. (2019). The comparatively weaker kinesthetic associations relate to instructional considerations discussed by ERIC (2025) and Pascu (2024). Jafari et al.(2019) also emphasized the importance of assessing study habits. However, these correlations establish associations rather than causal relationships.

3.4.2 Relationship Between Study Habits and Academic Performance

The results showed a statistically significant but negligible positive relationship between overall study habits and academic performance in MAPEH (r = 0.277, p < 0.001). Among the individual dimensions, concentration and interest obtained the highest correlation (r = 0.271), followed by use of materials (r = 0.224), content assimilation (r = 0.198), and study planning (r = 0.191). All correlations were statistically significant (p < 0.001), although their magnitudes were negligible based on the study's interpretation criteria. These findings suggest that study habits are associated with academic performance, but the relationships are weak. The comparatively higher association of concentration and interest supports discussions of motivation and engagement by Gula et al. (2022) and Vacaro (2022). Sebastian (2019) and Alido (2019) also discussed instructional engagement and MAPEH competencies, while Labrado et al. (2022) and Castillo et al. (2023) highlighted additional educational conditions relevant to student achievement. The results indicate that study habits alone have limited explanatory value for differences in MAPEH grades.

3.4.3 Relationship Between Learning Styles and Academic Performance

The results revealed a statistically significant but negligible positive relationship between overall learning styles and academic performance (r = 0.135, p = 0.019). Visual learning showed a significant positive correlation (r = 0.243, p < 0.001), followed by auditory learning (r = 0.184, p = 0.001). Conversely, tactile learning (r = 0.065, p = 0.260) and kinesthetic learning (r = −0.044, p = 0.443) showed no statistically significant relationships with academic performance. These findings indicate that visual and auditory learning preferences have weak positive associations with MAPEH grades, whereas tactile and kinesthetic preferences do not demonstrate significant relationships. The original literature discussed potential instructional differences involving kinesthetic learners (ERIC, 2025), movement-based learning (Pascu, 2024), and classroom experiences (Acta Psychologia, 2025). Alido (2019) similarly discussed challenges involving theoretical competencies in MAPEH. Dzulkalnine et al. (2024) and Malacapay (2024) emphasized flexible instructional approaches. However, the present correlations do not establish assessment bias or prove that particular instructional methods favor specific learners. Rather, they demonstrate that reported learning preferences have limited associations with academic performance in this sample.

4. CONCLUSIONS AND RECOMMENDATIONS

The study concludes that Grade 10 learners of Solano High School demonstrate high levels of study habits and learning-style preferences, with concentration and interest emerging as the strongest study-habit dimension and tactile learning as the most preferred modality. Most respondents attained outstanding or very satisfactory academic performance in MAPEH, with an overall mean grade of 86.58. A significant moderate positive relationship was established between study habits and learning styles (r = 0.635, p < 0.001). However, study habits (r = 0.277,

$p < 0.001$) and learning styles ($r = 0.135$, $p = 0.019$) demonstrated statistically significant but negligible positive relationships with academic performance. Visual and auditory preferences showed significant positive correlations with performance, whereas tactile and kinesthetic preferences showed no significant relationships. These findings indicate that although study habits and learning preferences are associated with academic achievement, their relationships with MAPEH performance are limited, suggesting the relevance of other contributing factors.

Based on the findings, learners should be encouraged to strengthen their study habits through effective time management, consistent study routines, and support from teachers and parents. Teachers should continue employing diverse instructional strategies and provide appropriate interventions that enhance learning engagement, study habits, and understanding of MAPEH concepts. Curriculum designers should integrate varied learning activities that accommodate students' learning preferences while promoting effective study practices. Furthermore, future researchers should investigate additional factors, particularly motivation, teaching quality, and socioeconomic influences, to develop a more comprehensive understanding of the determinants of academic performance in MAPEH.

The study was limited to Grade 10 learners of Solano High School during School Year 2025–2026, with academic performance measured exclusively through first-quarter MAPEH grades. The investigation focused on study habits and visual, auditory, tactile, and kinesthetic learning preferences. Other grade levels, educational institutions, and additional factors such as teacher-related characteristics, school facilities, and parental involvement were not included in the research framework, limiting the scope of the findings.

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