

Predictors Influencing Indigenous Learners' Academic Performance

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Publication history: Received: April 28, 2026; Revised: May 12, 2026; Accepted: May 16, 2026

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Abstract

This study examined the predictors influencing the academic performance of Indigenous learners in selected public secondary schools in Quezon Province. Guided by theories such as Self-Determination Theory, Social Cognitive Theory, Constructivist Learning Theory, Ecological Systems Theory, and Culturally Responsive Pedagogy, the research explored how learner-related, instructional, and socio-cultural factors affect Indigenous learners' educational experiences and academic outcomes. The study utilized a quantitative descriptive-comparative research design involving 50 Indigenous learners from Grades 7 to 10 during the School Year 2025–2026. Data were gathered using a validated researcher-made survey questionnaire employing a 4-point Likert scale and analyzed through descriptive and inferential statistical tools, including Weighted Arithmetic Mean, Kruskal-Wallis H Test, One-Way ANOVA, and Post Hoc Tests. The findings revealed that Indigenous learners generally demonstrated Fairly Satisfactory to Satisfactory academic performance. Students' interest, study habits, teaching strategies, instructional devices and materials, parental support and involvement, and community participation were identified as significant predictors influencing academic achievement. Learners showed higher engagement when instruction was culturally responsive, interactive, and connected to their lived experiences. Significant differences were also found between academic performance and several identified predictors, indicating that learner motivation, instructional practices, family support, and community involvement collectively shape academic outcomes. Based on the findings, the study proposed the Culturally Appropriate and Responsive Educational Support (CARES) Toolkit to strengthen culturally inclusive educational practices for Indigenous learners. The study supports Sustainable Development Goal 4 (Quality Education) by promoting inclusive and equitable education for Indigenous communities and Sustainable Development Goal 10 (Reduced Inequalities) through efforts to address educational disparities among marginalized learners. The research contributes to educational, cultural, socio-economic, and community sustainability by encouraging culturally responsive instruction, strengthening school-community collaboration, and supporting the preservation of Indigenous identity and knowledge systems within formal education.

Keywords: Academic Performance, Community Participation, Culturally Responsive Education, Indigenous Learners, Instructional Materials, Parental Involvement, Study Habits

1. Introduction

Education plays a vital role in individual and societal development (Pong, 2019). However, access to education alone does not guarantee equitable learning outcomes. The United Nations Sustainable Development Goals emphasize quality, inclusive, and equitable education for all (UNDP n.d.), yet Indigenous learners continue to experience disparities in access, participation, and academic achievement. Formal education systems frequently fail to align with Indigenous cultures, values, and traditions, resulting in disengagement, low motivation, and reduced academic performance (Lu and Joseph, 2014). Historical and socio-economic inequalities, including colonial influences, poverty, and limited access to educational resources, further contribute to these challenges (Ojeda et al., 2021; Caruso, 2017). In the Philippine context, policies such as the Early Special Education Program for Indigenous Peoples through DepEd Order No. 32, s. 2015 and the Enhanced Basic Education Act of 2013 promote culturally responsive and learner-centered education. However, implementation remains difficult, particularly in geographically isolated Indigenous communities. Existing studies indicate that student interest, study habits, teaching strategies, instructional materials, parental involvement, and community participation significantly influence academic performance (Alcueres, 2019). Indigenous communities also value education as a means of improving quality of life while preserving cultural identity and traditional knowledge systems (Lam et al., 2020). This study examines predictors influencing Indigenous learners' academic performance within Indigenous communities in Quezon Province. Specifically, it explores how learner-related, instructional, and socio-cultural factors shape educational experiences and outcomes among Indigenous learners. The study also proposes culturally responsive educational support strategies to enhance academic achievement while preserving Indigenous identity.

1.1 Background of the Study on Indigenous Learners' Academic Performance

Indigenous learners often encounter educational barriers because mainstream educational systems inadequately integrate Indigenous values, traditions, and learning practices (Lu and Joseph, 2014). Formal education commonly emphasizes dominant cultural perspectives while overlooking Indigenous knowledge systems, causing learners to feel disconnected from classroom instruction. Colonial and socio-economic inequalities continue to marginalize Indigenous communities, limiting access to quality educational opportunities (Ojeda et al., 2021). Studies show that Indigenous students globally experience lower educational attainment compared to non-Indigenous learners (Palley et al., 2023). In the Philippines, Indigenous education reforms attempt to address these inequalities through culturally inclusive curricula. However, there remains limited understanding of how learner interest, study habits, instructional approaches, parental support, and community involvement interact to influence Indigenous learners' academic performance (Alcueres, 2019). Indigenous learners frequently engage in experiential and community-based learning rooted in observation, participation, storytelling, and traditional livelihood practices. These approaches strengthen critical thinking, collaboration, and cultural identity. Therefore, culturally responsive educational practices are necessary to create inclusive and meaningful learning environments for Indigenous students (Salandan, 2022).

1.2 Themes and Insights from Related Literature on Indigenous Learners' Academic Performance

Research consistently identifies student interest, study habits, teaching strategies, instructional materials, parental support, and community participation as major predictors of Indigenous learners' academic performance. Indigenous students demonstrate stronger engagement and achievement when instruction reflects their culture and lived experiences (Garcia & Lee, 2022; Dela Cruz & Reyes, 2023). Integrating Indigenous knowledge systems into instruction also improves environmental awareness, motivation, and participation (Perez, 2022). Study habits significantly affect academic outcomes. Effective study routines, time management, note review, and self-regulated learning positively influence academic success (Kumar, 2015; Numan and Hasan, 2017; Salva et al., 2022). However, Indigenous learners often face challenges related to poverty, household responsibilities, and inadequate learning environments (Christian, 2021; Tadese et al., 2022). Teaching strategies likewise shape learner participation and comprehension. Student-centered and culturally responsive approaches improve critical thinking, classroom engagement, and academic performance (Guzman, 2016; Soubra et al., 2022; Algarni and Allahiq, 2023). Instructional devices and materials that are contextualized, visual, interactive, and culturally appropriate also enhance understanding and retention (Oke, 2016; Anthony & Andala, 2023). Parental support contributes significantly to enrollment, retention, motivation, and academic achievement (Fehrman, 2021; Karren and Warren, 2022; Asiimwe and Nabitake, 2023). Community involvement further strengthens learners' resilience, motivation, and sense of belonging (Algarni & Allahiq, 2023; Zhou & Kim, 2022). Indigenous students with strong community support systems are more likely to remain in school and perform better academically (Ramos, 2023).

1.3 Local, National, and Global Context of Indigenous Learners' Educational Experiences

Globally, Indigenous learners experience persistent educational inequities despite international recognition of education as a fundamental right. Native students in countries such as the United States continue to demonstrate lower rates of secondary and tertiary educational completion compared to non-Native populations (Palley et al., 2023). Nationally, Philippine educational reforms promote Indigenous Peoples Education through culturally responsive curricula and inclusive educational policies. However, implementation challenges remain evident in geographically isolated and disadvantaged areas where Indigenous learners encounter poverty, limited educational resources, and transportation difficulties. Locally, Indigenous communities in Quezon Province, including Dumagat-Remontado learners, continue to preserve traditional beliefs, livelihoods, and Indigenous knowledge systems. Many Indigenous families depend on farming, fishing, charcoal-making, and subsistence activities, affecting students' access to educational materials, study time, and academic support. These socio-economic and geographic realities shape Indigenous learners' academic experiences and performance.

1.4 Theoretical and Conceptual Basis of Predictors Influencing Indigenous Learners' Academic Performance

The study is grounded in several educational and socio-cultural theories explaining how learner-related, instructional, and environmental factors influence Indigenous learners' academic performance. Self-Determination Theory by Deci and Ryan emphasizes that students become more motivated when they experience autonomy, competence, and belongingness (Ryan and Deci, 2020; Schunk & DiBenedetto, 2020). Social Cognitive Theory highlights self-regulated learning and the interaction between personal, behavioral, and environmental influences (Zimmerman and Schunk, 2021). Constructivist Learning Theory explains that learners construct knowledge through social interaction and lived experiences (Darling-Hammond et al., 2020; Vygotsky, 1978). Gagné's Conditions of Learning emphasizes structured instruction, guided learning, and organized teaching strategies that enhance retention and engagement (Gagné et al., 2005, as cited by Merrill, 2020). The study also incorporates Culturally Responsive Pedagogy, which emphasizes integrating students' cultural experiences and Indigenous knowledge into instruction (Gay, 2021). Ecological Systems Theory further explains how family, school, and community interactions influence learners' academic achievement (Hill & Tyson, 2020). Epstein's Framework of Six Types of Parental Involvement highlights the importance of parenting, communication, volunteering, learning support, decision-making, and collaboration in promoting academic success (Epstein, 2018). These theories collectively support a culturally responsive and comprehensive framework that recognizes the interaction among learner

motivation, study habits, instructional practices, parental involvement, and community participation in shaping Indigenous learners' academic performance.

1.5 Research Gaps and Rationale on Predictors Influencing Indigenous Learners' Academic Performance

Existing literature primarily focuses on the effects of culturally responsive teaching, motivation, and engagement on Indigenous learners' participation in classroom activities (Delos Reyes & Fernandez, 2024; Salamanca, 2025; Balaba, 2023). Other studies examine individual variables such as study habits, instructional strategies, parental involvement, or community participation independently (Enteria & Tagyam, 2020; Vallejo, 2022; Regaspi, 2025). However, limited studies comprehensively examine how learner-related, instructional, and socio-cultural predictors collectively influence Indigenous learners' academic performance within the Philippine local context. There is also limited localized research involving Indigenous communities in Quezon Province, particularly among Dumagat learners. This study addresses these gaps by examining the combined influence of students' interest, study habits, teaching strategies, instructional devices and materials, parental support, and community participation on Indigenous learners' academic performance. The study further proposes a Culturally Appropriate and Responsive Educational Support (CARES) Toolkit to strengthen culturally responsive educational practices for Indigenous learners.

1.6 Alignment with Relevant Sustainable Development Goals (SDGs)

The study aligns with several Sustainable Development Goals, particularly SDG 4 – Quality Education, which promotes inclusive, equitable, and quality education for all learners. By identifying predictors influencing Indigenous learners' academic performance and proposing culturally responsive educational interventions, the study supports equitable access to meaningful learning opportunities for marginalized Indigenous communities. The research also aligns with SDG 10 – Reduced Inequalities by addressing educational disparities affecting Indigenous learners and promoting inclusive educational systems that recognize cultural diversity and Indigenous identity. Additionally, the study supports SDG 8 – Decent Work and Economic Growth because improving Indigenous learners' educational outcomes contributes to long-term socio-economic opportunities, community empowerment, and sustainable livelihood development. The emphasis on culturally responsive instruction, Indigenous knowledge systems, and community participation further supports SDG 11 – Sustainable Cities and Communities by preserving cultural heritage and strengthening inclusive community-based educational practices.

1.7 Importance of the Study to Multidisciplinary Sustainability

The study contributes to socio-economic sustainability by promoting educational practices that improve Indigenous learners' academic achievement and long-term educational opportunities. Enhanced academic performance may support future employment, economic participation, and community development among Indigenous populations. The research also contributes to educational sustainability through the development of culturally responsive and inclusive teaching strategies that recognize Indigenous learners' cultural identities, experiences, and knowledge systems. These approaches encourage learner engagement, motivation, and retention. In terms of cultural sustainability, the study supports the preservation and integration of Indigenous traditions, language, values, and community knowledge into formal education. Culturally responsive educational practices strengthen learners' cultural identity while improving academic participation and achievement. The study additionally contributes to community and institutional sustainability by encouraging collaboration among schools, families, Indigenous leaders, and local communities. Such partnerships help create supportive learning environments that strengthen educational inclusion, learner resilience, and culturally appropriate educational programs for Indigenous learners.

2. Material and methods

2.1 Research Design

The study utilized a quantitative descriptive-comparative research design to examine the predictors influencing Indigenous learners' academic performance. A survey method was employed to determine the respondents' Grade Point Average and assess the influence of individual, instructional, and socio-cultural factors on academic performance. The descriptive-comparative approach was also used to determine whether significant differences existed between the academic performance of Indigenous learners and the identified predictors. The findings served as the basis for developing the proposed Culturally Appropriate and Responsive Educational Support (CARES) Toolkit, which contains innovative and culturally responsive teaching strategies intended to improve the academic performance of Indigenous learners.

2.2 Locale of the Study

The study was conducted in five public secondary schools within a district in Quezon Province that serve Indigenous learners or students who identify as members of Indigenous communities. The selected schools are located in geographically diverse areas, including coastal and upland barangays, where many members of ethnolinguistic groups such as the Dumagat-Remontado reside. These communities continue to practice and preserve their cultural traditions, beliefs, and Indigenous knowledge systems. The study locale was selected because limited research has examined the predictors

influencing the academic performance of Indigenous learners in these communities. Many Indigenous families in the area rely on farming, fishing, charcoal-making, and other subsistence activities, which affect students' access to educational resources, study time, and parental academic support. Geographic isolation and socio-economic conditions also contribute to challenges related to attendance, transportation, and sustained engagement in school. These characteristics made the study area appropriate for examining how learner-related, instructional, and socio-cultural factors influence Indigenous learners' academic performance. The conceptual paradigm of the study followed the Input-Process-Output (IPO) model. The input included the respondents' Grade Point Average and the identified predictors influencing academic performance, namely students' interest, study habits, teaching strategies, instructional devices and materials, parental support and involvement, community participation, and total average. The process involved the administration of descriptive survey questionnaires and the analysis of significant differences between Grade Point Average and the identified predictors using statistical tools. The output of the study was the development of the Culturally Appropriate and Responsive Educational Support (CARES) Toolkit, designed to provide culturally responsive instructional strategies and learning support for Indigenous learners.

2.3 Respondents of the Study

The respondents were Junior High School Indigenous learners enrolled in Grades 7 to 10 during the School Year 2025–2026. These learners either belonged to Indigenous communities or identified themselves as Indigenous people. The respondents were selected from the identified public secondary schools within the study area. The study included Indigenous learners who met the following criteria: they were officially enrolled during the School Year 2025–2026, belonged to recognized Indigenous communities, and voluntarily agreed to participate in the study. The respondents represented learners from geographically isolated and socio-economically disadvantaged Indigenous communities, whose educational experiences were influenced by cultural traditions, livelihood conditions, and community practices.

2.4 Sample and Sampling Procedure

The study employed purposive sampling to select respondents. This sampling technique allowed the researcher to focus specifically on Indigenous learners who met the study criteria and could provide relevant information regarding the predictors influencing academic performance (Dovetail Editorial Team, 2023). A total of 50 Indigenous learners participated in the study. These respondents were selected based on their membership in Indigenous communities and their current enrollment in Grades 7 to 10 during the School Year 2025–2026. The sample size was determined using available enrollment data from the selected schools. The purposive sampling procedure ensured that the participants possessed the characteristics necessary for examining the variables under investigation.

2.5 Research Instrument

The study used a self-developed survey questionnaire to collect data from the respondents. The questionnaire utilized a 4-point Likert scale ranging from 1 (Strongly Disagree) to 4 (Strongly Agree). It measured six identified predictors influencing Indigenous learners' academic performance: students' interest, study habits, teaching strategies, instructional devices and materials, parental support and involvement, and community participation. The respondents' Grade Point Average was categorized as Outstanding (90–100%), Very Satisfactory (85–89%), Satisfactory (80–84%), and Fairly Satisfactory (75–79%), following DepEd Order No. 08, s. 2015. The questionnaire categorized the predictors into three major factors: individual factors, which included students' interest and study habits; instructional factors, which included teaching strategies and instructional devices and materials; and socio-cultural factors, which included parental support and involvement and community participation. To ensure validity, the instrument underwent expert validation by three specialists in Social Science education from the Schools Division of Quezon and a private college institution. Recommendations from these experts were incorporated to improve the instrument's clarity, relevance, and alignment with the study objectives. Reliability and validity testing were also conducted, including Cronbach's alpha testing, which yielded an alpha coefficient of 0.83. In addition, the researcher consulted members of the tribal council of elders to ensure cultural appropriateness and relevance of the instrument. The continuum scale used for interpreting the Weighted Arithmetic Mean classified responses as Strongly Agree (3.26–4.00), Agree (2.51–3.25), Disagree (1.76–2.50), and Strongly Disagree (1.00–1.75). This scale guided the interpretation of respondents' perceptions regarding the identified predictors influencing academic performance.

2.6 Data Gathering Procedure

The researcher first secured permission from the Schools Division Superintendent and the Public School District Superintendent before conducting the study. Approval was also obtained from the National Commission on Indigenous Peoples to ensure compliance with institutional and cultural protocols. After receiving authorization, the researcher coordinated with the Teacher-In-Charge in the selected schools to facilitate the administration of the survey questionnaires during respondents' vacant periods. Prior to data collection, informed consent was secured from all respondents and their parents or guardians. The researcher clearly explained the objectives, procedures, and significance of the study to ensure voluntary participation and full understanding of the research process. After the respondents completed the questionnaires, the researcher collected and organized the responses for analysis. The gathered data were processed using the Statistical

Package for the Social Sciences (SPSS). The results were subsequently presented to the statistician and research adviser for validation and approval before the development of the CARES Toolkit.

2.7 Data Analysis Techniques

The study utilized both descriptive and inferential statistical tools through the Statistical Package for the Social Sciences (SPSS). Frequency Percentage was used to determine the Grade Point Average distribution of Indigenous learners. The Weighted Arithmetic Mean (WAM) was used to assess the identified predictors influencing academic performance. To determine whether significant differences existed between Indigenous learners' academic performance and the identified predictors, the researcher used the Kruskal-Wallis H Test, One-Way Analysis of Variance (ANOVA), and Post Hoc Tests. The Kruskal-Wallis H Test was applied to variables that did not meet the assumptions of normality, while One-Way ANOVA was used for variables that satisfied both normality and homogeneity assumptions. Statistical significance was tested at the 0.05 level. The study also utilized normality and homogeneity-of-variance tests to determine the most appropriate statistical treatment for each variable. Students' interest, teaching strategies, and parental support and involvement did not follow a normal distribution; therefore, nonparametric tests were applied. In contrast, study habits, community participation, and total average met the assumptions for parametric analysis and were analyzed using One-Way ANOVA.

2.8 Ethical Considerations

The study strictly followed ethical standards to protect the rights, dignity, confidentiality, and welfare of all participants. Participation in the study was voluntary, and respondents were informed that they could withdraw from the study at any time without penalty. Informed consent was secured from all participants and from parents or guardians of minor respondents. To maintain anonymity and confidentiality, respondents' names and personal information were excluded from the data collection instruments and final reports. Codes and labels were used instead of names during data analysis. All gathered information was stored securely and used exclusively for academic purposes. The researcher also ensured cultural sensitivity throughout the study, particularly in working with Indigenous communities and respecting their traditions, beliefs, and perspectives. Survey questions were carefully designed to avoid psychological, emotional, or social harm. Finally, the findings were presented accurately and objectively, without bias or misrepresentation, and were shared responsibly with the schools and communities involved in the study.

3. Results and Discussion

3.1 Academic Performance and Identified Predictors of Indigenous Learners

3.1.1 Grade Point Average of Indigenous Learners

The results showed that most Indigenous learners obtained Fairly Satisfactory and Satisfactory academic ratings during the School Year 2024–2025. Only a small number achieved Outstanding performance. The findings indicate that most respondents demonstrated average academic achievement, suggesting the need for improved teaching strategies, stronger learner engagement, and enhanced academic support systems. The overall academic performance reflected a Fairly Satisfactory to Satisfactory level among Indigenous learners. The findings suggest that Indigenous learners continue to face educational challenges that affect academic achievement. The results support the studies of Organization for Economic Co-operation and Development [OECD] (2019) and United Nations Educational, Scientific and Cultural Organization [UNESCO] (2020), which emphasized that Indigenous learners often require additional educational support to improve performance outcomes. Similarly, Moll et al. (2020) and Rogoff (2020) explained that culture-based support systems positively influence student engagement and achievement, while Gay (2021) and Hammond (2021) emphasized the importance of culturally responsive instruction in improving Indigenous learners' academic success.

3.1.2 Students' Interest as a Predictor of Academic Performance

The results revealed that Indigenous learners generally agreed that students' interest significantly influenced academic performance. Learners expressed high levels of motivation when classroom activities were interactive, meaningful, culturally connected, and related to real-life experiences. The highest responses were associated with active participation, meaningful classroom discussions, and lessons connected to learners' daily lives and future goals. However, lower responses were observed in self-directed learning activities, culturally focused exploration, and independent information-seeking beyond classroom instruction. The findings indicate that Indigenous learners are more engaged when instruction reflects their cultural identity and lived experiences. Garcia and Lee (2022) and Dela Cruz and Reyes (2023) explained that culturally responsive instruction enhances student motivation, participation, and academic engagement. Brown (2022) and Persky and Pollack (2010) further noted that active learning approaches strengthen comprehension and participation. Perez (2022) emphasized that integrating Indigenous knowledge systems into the curriculum increases engagement, while Herpratiwi and Tohir (2022) highlighted the importance of self-directed and inquiry-based learning in sustaining academic motivation.

3.1.3 Study Habits of Indigenous Learners

The findings showed that Indigenous learners generally demonstrated positive study habits aligned with their cultural values and community practices. Learners reported setting aside study time, maintaining disciplined routines, and studying in environments conducive to learning. However, lower responses were associated with reviewing notes before examinations, taking study breaks, and advanced planning of school tasks. The results suggest that structured study routines and culturally grounded learning practices positively support academic performance. Aquino (2019) and Salva et al. (2022) explained that study habits and learning environments strongly influence academic achievement. Pangandoyon (2024) and Tagud and Valle (2023) further emphasized that effective time management and disciplined study practices improve academic performance. Cepeda et al. (2006), Dunlosky et al. (2013), and Roediger & Karpicke (2006) also noted that review strategies, self-testing, and spaced learning contribute significantly to retention and academic success.

3.1.4 Teaching Strategies Affecting Indigenous Learners

The results indicated that Indigenous learners generally perceived teaching strategies as helpful to their learning. The highest responses focused on teachers' ability to connect lessons to real-life skills, explain concepts clearly, and relate instruction to community experiences. However, lower responses were associated with differentiated instruction, hands-on learning activities, classroom participation, and individualized feedback. The findings imply that culturally responsive and learner-centered teaching strategies improve Indigenous learners' engagement and comprehension. Dela Cruz and Reyes (2023) highlighted that culturally relevant instruction positively affects academic performance, while Salazar and Gumanoy (2025) emphasized that differentiated instruction increases motivation and classroom participation. Liou (2023), Suprayogi et al. (2024), Gheyssens et al. (2023), and Sari et al. (2026) also explained that differentiated instruction and flexible teaching methods enhance academic achievement and learner confidence.

3.1.5 Instructional Devices and Materials Used in Learning

The findings revealed that Indigenous learners generally viewed instructional materials and teaching aids as supportive of learning. Learners responded positively to materials that connected lessons to real-life situations, used visual aids, and matched their learning levels. Lower responses were associated with the use of multimedia resources, hands-on activity materials, and instructional materials written in the learners' local language. The results indicate that contextualized and culturally appropriate instructional materials strengthen understanding and engagement among Indigenous learners. Lovido and Salazar (2026) explained that contextualized learning materials improve engagement and comprehension in culturally diverse settings. Hattie (2009) emphasized the effectiveness of visual and accessible materials, while Mayer (2020) highlighted the benefits of multimedia and interactive instructional tools. Garcia & Lee (2022) further noted that instructional materials aligned with learners' language and culture strengthen understanding and affirm cultural identity.

3.1.6 Parental Support and Involvement

The findings showed that Indigenous learners generally perceived their parents as supportive of their educational development. Parents were viewed as valuing education, monitoring academic progress, and providing school-related resources. However, lower responses were associated with direct participation in school activities, attendance at meetings, and academic assistance with homework and assignments. The results demonstrate that parental support remains an important factor in Indigenous learners' academic performance. Garcia and Lee (2022) emphasized that parental encouragement and resource provision positively influence engagement and achievement. Henderson and Mapp (2002) and Hill and Tyson (2009) also explained that active parental involvement strengthens home-school collaboration and improves academic outcomes.

3.1.7 Community Participation and Educational Support

The results revealed that Indigenous learners generally perceived strong community support for school activities and educational development. Learners reported that communities showed pride in student achievements, supported school activities, and collaborated with schools to address students' needs. However, lower responses were associated with the sharing of Indigenous knowledge by elders, educational advocacy among families, and structured support programs from local organizations. The findings suggest that community participation contributes positively to Indigenous learners' academic engagement and sense of belonging. Epstein (2018) and Garcia & Lee (2022) emphasized that collaboration between schools and communities strengthens student motivation and academic success. Harris and Ayre (2019) and Hill and Tyson (2009) also highlighted the importance of elder participation, educational advocacy, and community support in improving Indigenous learners' educational outcomes.

3.2 Predictors Influencing Indigenous Learners' Academic Performance

3.2.1 Students' Interest

The findings revealed that students' interest influenced Indigenous learners' academic performance, obtaining an average weighted arithmetic mean of 3.14 interpreted as Agree. Learners demonstrated strong interest in attending school to learn new things, participating in class discussions, and relating lessons to their daily experiences and future goals. Positive responses were also observed in participatory and inquiry-based learning activities. However, lower responses were noted in independently searching for additional information and engaging in exploratory learning activities outside class hours.

The findings indicate that Indigenous learners become more engaged when learning activities are meaningful, interactive, and culturally relevant. Garcia and Lee (2022) and Dela Cruz and Reyes (2023) emphasized that culturally responsive learning environments increase student participation and achievement. Perez (2022) further explained that integrating Indigenous knowledge into lessons enhances learner motivation. The findings also support Brown (2022) and Persky and Pollack (2010), who found that active learning strategies improve engagement and understanding. In contrast, Alipio (2020) observed that low motivation negatively affects academic achievement.

3.2.2 Study Habits

The findings revealed that Indigenous learners generally practiced positive study habits, obtaining an average weighted arithmetic mean of 3.23 interpreted as Agree. Learners consistently followed study schedules, maintained quiet study environments, and practiced learning routines aligned with their cultural values and community traditions. Positive responses were also observed in completing assignments on time and seeking help when lessons became difficult. However, lower responses were noted in reviewing notes before examinations and planning school tasks ahead of deadlines. The results suggest that structured routines and culturally aligned learning practices positively support academic performance. Aquino (2019) and Salva et al. (2022) highlighted that effective study habits are essential predictors of academic achievement. Pangandoyon (2024) and Tagud and Valle (2023) further explained that time management, discipline, and organized study routines improve learner performance. The findings also support Cepeda et al. (2006), Dunlosky et al. (2013), and Roediger and Karpicke (2006), who emphasized that spaced learning, self-testing, and regular review improve retention, comprehension, and long-term academic performance.

3.2.3 Teaching Strategies

The results showed that teaching strategies influenced Indigenous learners' academic performance, obtaining an average weighted arithmetic mean of 2.72 interpreted as Agree. Learners positively responded to teaching approaches that connected lessons to real-life situations, future skills, and culturally familiar examples. Positive responses were also observed in teachers' clarity of instruction and classroom explanations. However, lower ratings were noted in differentiated instruction, classroom participation, hands-on learning activities, and teacher feedback. The findings indicate that culturally responsive and learner-centered teaching strategies are important in improving Indigenous learners' academic engagement. Dela Cruz and Reyes (2023) emphasized that culturally relevant teaching improves participation and academic achievement among Indigenous students. Salazar and Gumanoy (2025) also found that differentiated instruction increases student motivation and participation. Furthermore, Liou (2023), Suprayogi et al. (2024), Gheysens et al. (2023), and Sari et al. (2026) stressed that differentiated instruction and meaningful feedback improve academic achievement, learner confidence, and engagement.

3.2.4 Instructional Devices and Materials

The findings revealed that instructional devices and materials positively influenced Indigenous learners' academic performance, obtaining an average weighted arithmetic mean of 2.95 interpreted as Agree. Learners highly valued instructional materials that connected lessons to real-life experiences, visual aids that simplified concepts, and learning resources suited to their level of understanding. Positive responses were also observed in the use of printed materials and culturally relevant examples. However, lower responses were noted in the use of multimedia resources, hands-on materials, and instructional materials written in local languages. The findings suggest that contextualized and culturally relevant instructional materials improve learner understanding and engagement. Lovido and Salazar (2026) found that culturally relevant learning materials enhance academic performance and engagement in diverse learning environments. Hattie (2009) emphasized that visual and accessible instructional materials improve comprehension. Mayer (2020) also noted that multimedia and hands-on resources increase learner engagement and retention. Garcia and Lee (2022) further stressed that instructional materials aligned with learners' language and culture support academic success and strengthen cultural identity.

3.2.5 Parental Support and Involvement

The findings showed that parental support and involvement influenced Indigenous learners' academic performance, obtaining an average weighted arithmetic mean of 2.99 interpreted as Agree. Parents generally valued education, monitored school activities, and provided school-related needs and learning materials. Learners also reported that parents encouraged them to continue studying despite challenges. However, lower responses were observed in direct parental participation in school activities, meetings, and homework supervision. The results indicate that parental encouragement and educational support contribute positively to learners' academic development. Garcia and Lee (2022) emphasized that parental support and access to learning resources improve student engagement and academic achievement. Henderson and Mapp (2002) and Hill and Tyson (2009) also found that active parental involvement strengthens home-school relationships and improves academic outcomes.

3.2.6 Community Participation

The findings revealed that community participation influenced Indigenous learners' academic performance, obtaining an average weighted arithmetic mean of 3.05 interpreted as Agree. Learners strongly agreed that their communities valued education, supported school programs, and recognized students' academic achievements. Positive responses were also observed in community participation in educational activities and school partnerships. However, lower responses were noted in educational advocacy initiatives, organized support programs, and elder participation in educational activities. The results suggest that community involvement positively influences Indigenous learners' motivation, belongingness, and academic engagement. Epstein (2018) and Garcia and Lee (2022) emphasized that community partnerships and social support systems improve educational outcomes. Reyes and Bautista (2024) also explained that community support contributes significantly to Indigenous students' academic achievement. Harris and Ayre (2019) and Hill and Tyson (2009) further highlighted the importance of elder participation and educational advocacy in supporting Indigenous learners.

3.3 Significant Difference Between Learners' Academic Performance and Identified Predictors

3.3.1 Students' Interest and Academic Performance

The findings revealed that students' interest obtained an overall mean of 3.14 and showed a statistically significant difference across academic performance levels. Learners with Outstanding and Very Satisfactory performance demonstrated stronger interest in learning activities compared to those with Fairly Satisfactory performance. Pairwise comparison results showed significant differences between Fairly Satisfactory and Satisfactory learners, Fairly Satisfactory and Very Satisfactory learners, and Fairly Satisfactory and Outstanding learners. The results indicate that learners with stronger interest and motivation are more likely to perform better academically. Hidi and Renninger (2020) emphasized that students perform better when lessons relate to their experiences and interests. The findings also support Gunawan et al. (2018), Maison et al. (2020), Susilowati et al. (2019), and Azhary et al. (2020), who explained that learner interest improves analytical thinking, self-regulation, critical thinking, and academic performance.

3.3.2 Study Habits and Academic Performance

The findings showed that study habits obtained an overall mean of 3.23 but did not show a statistically significant difference across academic performance groups. Although learners generally practiced positive study habits, the differences among Fairly Satisfactory, Satisfactory, Very Satisfactory, and Outstanding learners were minimal. The results suggest that while study habits contribute to learning, they may not independently determine academic performance among Indigenous learners. External factors such as instructional quality, cultural responsiveness, and social support may also influence academic outcomes. Nevertheless, previous studies by Dunlosky et al. (2020), Aquino (2019), and Salva et al. (2022) still support the importance of effective study habits in sustaining learner achievement.

3.3.3 Teaching Strategies and Academic Performance

The findings revealed that teaching strategies obtained an overall mean of 2.72 and showed a statistically significant difference across academic performance levels. Learners with Very Satisfactory and Outstanding performance perceived teaching strategies more positively than Fairly Satisfactory learners. Pairwise comparisons revealed significant differences between Fairly Satisfactory and Very Satisfactory learners and between Fairly Satisfactory and Outstanding learners. The results emphasize the importance of culturally responsive and flexible instructional approaches in Indigenous education. The findings support Esparrago-Kalidas (2024), Salamanca (2025), Balaba (2023), and Gonowon (2024), who emphasized that culturally sensitive and learner-centered teaching methods improve participation, confidence, and academic success among Indigenous learners.

3.3.4 Instructional Devices and Materials and Academic Performance

The findings showed that instructional devices and materials obtained an overall mean of 2.95 and revealed a statistically significant difference across academic performance levels. Learners with higher academic performance reported more positive perceptions toward instructional resources than learners within the Fairly Satisfactory group. Significant differences were observed between Fairly Satisfactory and Satisfactory learners, Fairly Satisfactory and Very Satisfactory learners, and Fairly Satisfactory and Outstanding learners. The results indicate that contextualized and culturally relevant instructional materials improve academic achievement and learner engagement. The findings support Lovido and Salazar (2026), Hattie (2009), Mayer (2020), and Garcia and Lee (2022), who emphasized that appropriate instructional materials improve comprehension, participation, and academic success.

3.3.5 Parental Support and Academic Performance

The findings revealed that parental support and involvement obtained an overall mean of 2.99 but did not show a statistically significant difference across academic performance levels. Parents consistently supported learners regardless of whether students belonged to the Fairly Satisfactory, Satisfactory, Very Satisfactory, or Outstanding groups. The results imply that parental support remains consistently present among Indigenous learners, although differences in academic performance may depend more on instructional and environmental factors. Nevertheless, Henderson and Mapp (2002) and Hill and Tyson (2009) emphasized that sustained parental involvement remains essential in supporting academic achievement.

3.3.6 Community Participation and Academic Performance

The findings revealed that community participation obtained an overall mean of 3.05 and showed a statistically significant difference across academic performance levels. Learners with higher academic performance demonstrated stronger community involvement and support compared to learners with Fairly Satisfactory performance. Pairwise comparisons showed significant differences between Fairly Satisfactory and Satisfactory learners and between Fairly Satisfactory and Very Satisfactory learners. The results highlight the importance of strong community engagement in strengthening Indigenous learners' resilience, motivation, and academic participation. Caitlin Ryan (2023) emphasized that active community participation improves student outcomes and strengthens educational partnerships, while Catherine Daly (2022) explained that communities foster inclusion and belongingness among learners.

3.3.7 Combined Predictors and Academic Performance

The findings revealed that the combined predictors obtained an overall mean of 3.01 and showed a statistically significant difference across academic performance levels. Learners with Very Satisfactory and Outstanding performance demonstrated more positive responses across all predictors than learners with Fairly Satisfactory performance. Pairwise comparisons consistently showed significant differences between Fairly Satisfactory learners and the higher-performing groups. The results suggest that Indigenous learners' academic performance is shaped by interconnected personal, instructional, and sociocultural factors. OECD (2021), Gay (2021), Hammond (2021), Dunlosky et al. (2020), Epstein (2018), United Nations Educational, Scientific and Cultural Organization [UNESCO] (2020), and Darling-Hammond et al. (2020) emphasized that comprehensive and culturally responsive educational interventions are necessary to improve learner outcomes.

3.4 Output of the Study: Culturally Appropriate and Responsive Educational Support (CARES) Toolkit

The findings identified students' interest, teaching strategies, instructional devices and materials, and community participation as significant predictors of Indigenous learners' academic performance. In response, the researcher developed the Culturally Appropriate and Responsive Educational Support (CARES) Toolkit to improve learner engagement, motivation, and academic achievement. The toolkit was designed to support culturally responsive and inclusive teaching practices by integrating Indigenous knowledge, experiences, and learning preferences into classroom instruction. It includes culturally relevant teaching strategies, instructional procedures, practical applications, and theoretical foundations intended to strengthen Indigenous learners' participation, understanding, and academic success.

4. Conclusion and Recommendations

The study concluded that Indigenous learners generally demonstrated Fairly Satisfactory to Satisfactory academic performance, with students' interest, study habits, teaching strategies, instructional devices and materials, parental support and involvement, and community participation significantly influencing their academic achievement. The findings revealed that culturally responsive instruction, effective study habits, supportive family involvement, and active community participation positively contributed to learners' engagement and performance. Significant differences were also found between academic performance and several identified predictors, indicating that learner-related, instructional, and socio-cultural factors collectively shape the educational experiences of Indigenous learners. The development of the Culturally Appropriate and Responsive Educational Support (CARES) Toolkit was therefore considered necessary to strengthen culturally inclusive educational practices and improve the academic performance of Indigenous learners.

The study recommended the implementation of culturally responsive teaching strategies and learning support programs that align with the cultural identity, experiences, and needs of Indigenous learners. Schools, teachers, parents, and community leaders should strengthen collaboration to improve learner motivation, study habits, instructional practices, and educational support systems. Educational institutions are also encouraged to utilize contextualized instructional materials and community-based learning approaches to enhance engagement and academic performance among Indigenous learners. The proposed Culturally Appropriate and Responsive Educational Support (CARES) Toolkit may be adopted and further utilized to support inclusive and culturally appropriate educational interventions in Indigenous communities.

The study was limited to selected Indigenous learners enrolled in public secondary schools within a district in Quezon Province during the School Year 2025–2026. The respondents were limited to Grades 7 to 10 Indigenous learners identified through purposive sampling, which may restrict the generalizability of the findings to other Indigenous communities or educational settings. The study also focused only on selected learner-related, instructional, and socio-cultural predictors influencing academic performance and relied primarily on self-reported responses obtained through survey questionnaires.

Compliance with ethical standards

The authors declare no conflict of interest, and this study received no external funding. The researchers acknowledge the participation of the Indigenous learners, parents or guardians, school personnel, and the involved educational institutions who contributed to the completion of the study. Participation was voluntary, informed consent was obtained from the respondents and their parents or guardians, and data were collected through non-invasive survey questionnaires. All information gathered was treated with strict confidentiality, and no identifying personal information was disclosed in the study.

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