

Blended Learning and Academic Performance of Senior High School Students in Arellano University- Andres Bonifacio Campus, Pasig City

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ABSTRACT

This study examined the perceptions of blended learning and its relationship to the academic performance of senior high school students at Arellano University, Pasig City, during the School Year 2024–2025. The respondents were 221 Grade 12 students under the Accountancy and Business Management (ABM) strand in the first semester. Using a quantitative-descriptive design and a researcher-developed questionnaire, the study aimed to assess the effectiveness of blended learning in enhancing student performance.

Findings revealed diverse demographic profiles, including monthly family income, parents' educational attainment, and employment status. Most respondents were female (75.57%) and male (24.43%), and came from varied socioeconomic backgrounds. Overall, students expressed positive perceptions of blended learning across dimensions such as acceptance, satisfaction, engagement, flexibility, collaboration, and technological competence. Mean ratings indicated that blended learning was generally well-received and considered effective. Academic performance results showed that a majority achieved outstanding grades of 63.80%, while 30.32% performed very satisfactorily, suggesting that blended learning may have contributed to high achievement levels. Significant differences in perception were observed based on family income, and parents' educational attainment, though not on employment status. Similarly, differences in academic performance were linked to family income, employment status, and educational attainment.

A significant positive correlation was found between students' perceptions of blended learning and their academic performance, underscoring its potential benefits. Based on these insights, the study proposed an enhanced program to support teachers and learners in sustaining effective blended learning practices.

Keywords: Academic Performance, Blended learning, Senior High School Students

INTRODUCTION

In the ever-evolving landscape of education, the integration of technology with innovative pedagogical approaches has become a cornerstone in shaping students' academic experiences (Eden, 2024). A significant paradigm shift is evident in the adoption of blended learning—a dynamic combination of traditional face-to-face instruction and online modalities (Garcia, 2021).

From a European perspective, studies such as the European Commission (2020) highlight how blended learning enhances critical thinking and fosters collaborative learning environments. This underscores the importance of adapting teaching methods to meet the evolving needs of students in the digital age. In Africa, research by Oduor and Nzuki (2022) demonstrates the potential of blended learning to address educational disparities, emphasizing its role in bridging gaps in access to quality education, particularly in remote regions. The effectiveness of blended learning is contingent upon factors such as student engagement and resource availability. In Asia, several studies conducted during the COVID-19 pandemic further illustrate the impact of blended learning. Maulana and Kusnadi (2021) reported that Indonesian senior high school students receiving blended instruction achieved higher exam scores compared to those in traditional classrooms. Rasid and Rahman (2020), in Malaysia, employed a quasi-experimental design and concluded that student engagement, teacher support, and access to technology were critical to the success of blended learning. Likewise, Chua and Tan (2021) found that Singaporean students benefitted academically from blended learning, with improved exam performance linked to factors such as motivation, teacher guidance, and technological accessibility. Collectively, these studies affirm that blended learning holds significant promise for enhancing academic outcomes across diverse contexts. At the same time, they highlight the necessity of addressing challenges related to infrastructure, teacher training, and student engagement to fully realize its potential as a transformative educational model.

Kim and Lee (2021) conducted a meta-analysis of 33 studies published between 2020 and 2021, examining the impact of blended learning on the academic performance of senior high school students outside the ASEAN region. Their review revealed that blended learning significantly enhanced student outcomes in mathematics, science, and English, with the most pronounced benefits observed among students with initially low academic performance. Similarly, Al-Turki and Al-Mahrouqi (2021) found that blended learning improved achievement in these core subjects, emphasizing the critical role of teacher training and student motivation in ensuring success within blended learning environments. Lee and Lee (2020) investigated the academic performance of senior high school students in South Korea during the 2019–2020 school year, comparing blended learning with traditional classroom instruction. Their findings indicated that students in blended learning programs achieved significantly higher performance, particularly in mathematics and science, underscoring the importance of teacher support and student engagement. In India, Singh et al. (2021) examined the implementation of blended learning during the COVID-19 pandemic. The study demonstrated that students who participated in blended learning achieved higher academic performance compared to those excluded due to limited access to technology or internet connectivity, highlighting the digital divide as a key challenge.

Expanding the scope globally, Zhang, Li, and Zhang (2021) analyzed 37 studies across Asia, Europe, and North America. Their findings suggested that blended learning positively influences academic performance, particularly in fostering critical thinking, problem-solving, and self-regulated learning. However, they noted that effectiveness is contingent upon instructional design quality, student engagement, and resource availability. Similarly, Kulkarni and Panchal (2021), in their review of 45 studies across multiple continents, concluded that blended learning enhances academic performance in higher education settings. They emphasized that student motivation, instructional design, and access to resources remain pivotal factors in determining its success.

Panganiban (2021) synthesized existing studies on blended learning and the academic performance of senior high school students in the Philippines from 2019 onward. Eleven studies met the inclusion criteria, employing both quantitative and qualitative research designs. The findings indicated that blended learning positively influenced academic performance, particularly through higher grades, enhanced critical thinking skills, and increased motivation. Nonetheless, challenges such as unequal access to technology, insufficient teacher training, and issues with student engagement were also identified. Cruzada (2021) examined the implementation of blended learning in a public senior high school during the pandemic. Results revealed both positive and negative impacts: students with access to technology and teacher support performed better, while those lacking these resources struggled. Persistent challenges included student engagement, teacher preparedness, and technological inequities.

Similarly, De Leon, Carreon, and Lazaro (2021) synthesized empirical studies on blended learning in the Philippines, highlighting its positive effects on critical thinking, problem-solving, and self-directed learning. However, barriers such as limited technology access, inadequate teacher training, and low student motivation remained significant. Bautista and Diaz (2020) explored student experiences in blended learning during the COVID-19 pandemic. Their findings emphasized both advantages—such as flexibility, convenience, and resource accessibility—and disadvantages, including reduced face-to-face interaction, technical difficulties, and time management challenges. The study recommended a comprehensive blended learning strategy to address these issues, while also noting concerns related to teacher workload, technology access, and assessment practices. Salazar and Lopez (2021) analyzed the benefits and impact of blended learning, stressing that its effectiveness depends on teacher preparation, student readiness, and technology infrastructure. They recommended a holistic approach to blended learning that integrates these factors. Balagtas and Bautista (2020), using a quasi-experimental design, investigated the relationship between blended learning and academic performance. Their study revealed that student engagement and self-regulated learning were significant predictors of success in blended learning environments. Rao and Koul (2021) provided a comprehensive literature review on blended learning's impact on academic performance, including studies from the Philippines. They concluded that blended learning significantly improves outcomes, particularly in STEM subjects. Similarly, Cruzada (2020) found that blended learning enhanced student engagement, motivation, and critical thinking, though challenges related to technology and teacher training persisted. Ponnusamy and Ramasamy (2021) analyzed studies across multiple countries, including the Philippines, and reported that blended learning improved academic performance in STEM subjects while also fostering student motivation and engagement. Finally, Tanganan (2021) discussed blended learning as a promising approach for senior high school students in the Philippines, outlining both challenges and opportunities, and offering recommendations for educators and policymakers.

According to the study of the Department of Education (DepEd) (2021) in the Philippines, here are some indicators regarding the perception of senior high school (SHS) students in blended learning. Majority of SHS students (85%) reported being satisfied with blended learning, and 93% said they preferred it over traditional face-to-face learning. Most SHS students (90%) reported being engaged during blended learning sessions, with 86% saying they were actively participating in discussions and activities.

Arellano University–Andres Bonifacio Campus in Pasig City stands as a testament to the institution's enduring commitment to delivering quality education. As pedagogical methodologies continue to evolve, the university incorporated blended learning into its continuity plan following the pandemic, recognizing its potential to enrich the academic experiences of senior high school students (Utami, 2018). This approach, which integrates the strengths of both traditional face-to-face instruction and digital learning, has the capacity to reshape classroom dynamics and significantly influence student outcomes (Angwaomaodoko, 2025). Understanding the relationship between blended learning and academic performance is particularly critical in the context of senior high school education. As institutions navigate

the demands of the digital age, the exploration and adoption of innovative teaching methodologies become imperative (Joshi et al., 2023). This study sought to provide valuable insights into the effectiveness of blended learning at Arellano University–Andres Bonifacio, Pasig City, highlighting its implications for student achievement.

As a dynamic educational institution, Arellano University recognizes the necessity of continually enhancing its instructional practices to align with the evolving needs and preferences of its student body. The findings of this study can inform strategic decision-making within the university, guiding the refinement of blended learning practices and contributing to improved academic outcomes. Teachers, administrators, and policymakers stand to benefit from these insights, particularly in identifying effective strategies for implementing and sustaining blended learning initiatives. By situating its findings within both global and local literature, the study contributes to the broader academic discourse on blended learning while offering a nuanced perspective rooted in the Philippine context. Tailored action plans derived from the research can foster a student-centered learning environment, address existing challenges, and optimize the benefits of blended learning for diverse student profiles.

This study aims to explore the intricate relationship between blended learning and the academic performance of grade 12 senior high school students in Accountancy and Business and Management (ABM), in Arellano University-Andres Bonifacio located at Pasig City, Metro Manila Philippines.

Statement of the Problem

This study determined the perceptions on blended learning and the academic performance of senior high school students at Arellano University, Pasig City, for the School Year 2024 -2025. Specifically, it sought to answer the profile of senior high school student respondents in terms of family monthly income, parents' highest educational attainment, and parents' employment status. In addition, the study identified the perceptions of the student-respondents regarding blended learning in terms of acceptance and satisfaction, engagement, flexibility, collaboration, and technology skills. Also, examined the academic performance of the senior high school student-respondents in all their subjects in the first semester.

Furthermore, the study examined the significant difference in the perceptions of the senior high school student- respondents regarding blended learning when grouped according to their profile. As well as, the significant difference in the academic performance of the senior high school student-respondents in all their subjects in the first semester of SY 2024-2025 when grouped according to their profile. It likewise investigated the significant correlation between the perceptions of the senior high school student-respondents regarding blended learning and their academic performance in all their subjects in the first semester of School Year 2024-2025. Finally, based on the findings, the study proposed an action plan to address the perceptions of the students regarding blended learning and their academic performance

Hypotheses

This study tested the hypotheses at a 0.05 level of significance. A significance level of 0.05 indicates a 5% risk of concluding that a difference or correlation existed when there was no actual difference or correlation. For a significance level of 0.05, it is expected to obtain sample means in the critical region 5% of the time when the null hypotheses will be true.

- H_{01} There is no significant difference in the perceptions of the senior high school student-respondents regarding blended learning when grouped according to their profile;

- H_{02} There is no significant difference in the academic performance of the senior high school student-respondents in all their subjects in the first semester of School Year 2024-2025 when grouped according to their profile.
- H_{03} There is no significant correlation between the perceptions of the senior high school student-respondents regarding blended learning and their academic performance in all their subjects in the first semester of School Year 2024-2025.

Scope and Limitation

The scope of this investigation encompassed multiple dimensions, including demographic characteristics, perceptions of blended learning, and academic performance during the first semester. Specifically, the research examined the demographic profile of senior high school students, focusing on variables such as family monthly income, parents' highest educational attainment, and parents' employment status.

This exploration provided a comprehensive understanding of the diverse backgrounds of the student-respondents. The study further assessed students' perceptions of blended learning, with emphasis on acceptance and satisfaction, engagement, flexibility, collaboration, and technological proficiency. These dimensions were critical in capturing the nuanced experiences and attitudes of students toward the blended learning approach. In addition, an in-depth analysis of academic performance was conducted, highlighting students' achievements across all subjects during the first semester of School Year 2024–2025. This analysis offered valuable insights into the effectiveness of blended learning in producing measurable academic outcomes.

The study employed a descriptive-correlational research design and utilized total population sampling to determine the respondents. Data collection was facilitated through a structured questionnaire, which solicited personal information and self-assessments from participants. Statistical treatments included frequency distribution, percentage analysis, arithmetic mean, Analysis of Variance (ANOVA), and Pearson's Product-Moment Correlation. These methods were applied to examine the relationship between students' perceptions of blended learning and their academic performance, serving as the foundation for the proposed pedagogical action plan.

Despite its comprehensive nature, the study was subject to delimitations to maintain focus and feasibility. The investigation was confined to ten sections of Grade 12 Accountancy, Business, and Management (ABM) students at Arellano University–Andres Bonifacio, Pasig City, thereby limiting the generalizability of findings to this institution. The study concentrated on the School Year 2024–2025, ensuring relevance to contemporary educational practices within the specified timeframe. Academic performance analysis was restricted to the first semester, providing a snapshot of initial experiences with blended learning and its immediate impact on student achievement. The demographic profile was limited to family monthly income, parents' highest educational attainment, and parents' employment status, ensuring a focused exploration of key variables. Furthermore, the research predominantly employed quantitative methods, which constrained the depth of qualitative insights into students' perceptions and experiences.

Findings from this study are intended to contribute to a deeper understanding of blended learning and its impact on academic performance within Arellano University–Andres Bonifacio, Pasig City. However, results may not be directly generalizable to broader educational contexts.

METHODS

A descriptive correlational research design was employed in this study. This type of design examines the relationship between two or more variables without making causal claims. It involves collecting and analyzing data on at least two variables to determine whether a statistical association exists (Bhandari, 2021). Researchers focus on describing the variables of interest and exploring how they relate, without manipulating them or assuming cause-and-effect relationships. Instead, they observe and measure the variables, identifying patterns and correlations that emerge from the data (QuestionPro, 2023).

In addition, a descriptive research approach was utilized to systematically characterize phenomena, circumstances, or populations (Sirisilla, 2023). This design primarily addresses the what, when, where, and how of a research problem rather than the why. It allows for the investigation of target variables through diverse research techniques, relying predominantly on quantitative data, though qualitative data may occasionally be incorporated (Voxco, 2021). As a sub-type of research, descriptive studies aim to provide a comprehensive account of populations, circumstances, or phenomena by focusing on the contextual aspects of the inquiry (Formplus Blog, 2022).

This study specifically sought to determine whether a significant correlation exists between students' perceptions of blended learning and their academic performance. Correlational analysis was applied to assess both the degree and direction of the association between these two variables, thereby offering insights into how students' attitudes toward blended learning may relate to their educational outcomes.

The Respondents

The respondents in this study were 221 senior high school students in the first semester of the School Year 2024-2025 at Arellano University, Pasig. These were the students enrolled in the class of the researcher.

Table 1. The Total Number of Respondents Per Section

ABM Grade 12 Respondents	Frequency (f)	Percentage (%)
Male	54	24.43
Female	167	75.57
Total	221	100

Sampling Design

This study used the total population random sampling design to select the respondents from all classes under the strand of the researcher at Arellano University- Andres Bonifacio, Pasig City. Therefore, all the respondents were given equal chances to be included in the study.

Total population random sampling is one in which everyone in the inquiry population has an equal chance of being selected to be included in the sample (Calderon & Gonzales, 2019).

Research Instrument

The research instrument in this study was consisted of three (3) parts. Part I detailed the profile of the respondents in terms of family monthly income, parents' highest educational attainment, and parents' employment status. Part II consisted of the perceptions of the respondents on blended learning in terms of acceptance and satisfaction, engagement, flexibility, collaboration, and technology skills. Part III showed the respondents' academic performance in all their subjects in the first semester of School Year 2024-2025.

Validation of the Instrument

A total of twenty (20) learners, who were not part of the researchers' class and were excluded from the study respondents, were engaged to pretest the instrument. This pretesting ensured clarity of items and allowed for necessary revisions prior to the preparation of the final draft. Following the approval of the research adviser, the instrument was formally administered.

To establish reliability, the instrument was subjected to Cronbach's alpha testing. Cronbach's alpha is a statistical measure of internal consistency, indicating the degree to which a set of items are interrelated and thereby assessing scale reliability. It is important to note, however, that a high alpha value does not necessarily imply one-dimensionality (Statistical Council, 2021). The results of the reliability test were carefully analyzed to confirm both the clarity and validity of the instrument.

Additionally, the necessity of an intervention plan was evaluated through interviews, providing further insight into areas requiring pedagogical enhancement.

Statistical Design

The statistical treatment employed in this study utilized frequency, percentage, and mean as descriptive statistical tools. For inferential analysis, the study applied Analysis of Variance (ANOVA) and Pearson's r , using SPSS Version 29 as the statistical software. All data collected were systematically tallied, tabulated, analyzed, and interpreted to ensure accuracy and rigor.

The following section presents detailed explanations regarding the utility and application of the aforementioned statistical tools. Frequency employed to determine the number of respondents according to their profile, such as family income, parent's highest educational attainment, parent's employment status, and academic performance. Percentage employed to determine the respondents' percentage according to their profile, such as family income, parent's highest educational attainment, parent's employment status, and academic performance. Additionally, mean used to find out the average of the responses of the perceptions of the students in the blended learning and academic performance. Analysis of Variance (ANOVA)s adapted to find out the differences in the perceptions of the students on blended learning and their academic performance when grouped according to profile. Pearson's product-moment correlation test was used to find the computed " r " coefficient, degrees of freedom, critical " r " coefficient, decision, and interpretation between the respondents' perceptions on blended learning and academic performance.

Lastly, Likert Scale employed to quantify the extent to which the student's perceptions on blended learning and their academic performance, weighted values were assigned as follows:

Table 2. Likert Scale of the Perceptions on Blended Learning

Rank	Weight	Descriptive Rating
4	3.25-4.00	Very Good
3	2.50-3.24	Good
2	1.75-2.49	Fair
1	1.00-1.74	Poor

Table 3. Likert Scale of Academic Performance of the Respondents during the First Semester SY 2024-2025

Grading Scale	Descriptors	Remarks
90-100	Outstanding	Passed
85-89	Very Satisfactory	Passed
80-84	Satisfactory	Passed
75-79	Fairly Satisfactory	Passed
Below 75	Did Not Meet Expectations	Failed

Table 4. Scale in Determining the Significant Correlation between the Perception of the Respondents on Blended Learning and their Profile

r value	Descriptive Rating
± 1.00	Positive/Negative Perfect Correlation
± 0.75 to ± 0.99	Positive/Negative Very High Correlation
± 0.50 to ± 0.74	Positive/Negative High Correlation
± 0.25 to ± 0.49	Positive/Negative Low Correlation
± 0.01 to ± 0.24	Positive/Negative Very Low Correlation
0.00	No Correlation

RESULTS and DISCUSSIONS

1. Profile of the Respondents

Table 5. Frequency and Percentage of the Profile of the Respondents in terms of Monthly Family Income

Monthly Family Income	Frequency	Percentage
Above Php 20,000	45	20.36
Php 15,000 - Php 20,000	48	21.72
Php 10,000 - Php 15,000	47	21.27

Php 5,000 - Php 10,000	39	17.65
Below Php 5,000	42	19.00
Total	221	100.00

Table 5 presents the frequency and percentage distribution of respondents according to monthly family income. The data indicate that 48 respondents (21.72%) fall within the income bracket of Php 15,000–Php 20,000, 47 respondents (21.27%) within Php 10,000–Php 15,000, 45 respondents (20.36%) above Php 20,000, 42 respondents (19.00%) below Php 5,000, and 39 respondents (17.65%) within Php 5,000–Php 10,000.

A correlational study conducted in the Philippines revealed that family income classification significantly influences students’ academic performance, with higher-income households providing greater access to educational resources and learning opportunities (Casas, 2023). Learners from families with limited income often face challenges such as inadequate access to technology, which is essential in blended learning modalities. This disparity can hinder their ability to fully engage in online components of blended learning. Research underscores that successful implementation of blended learning requires reliable internet connectivity, digital devices, and supportive home environments. Students from higher-income families are more likely to meet these requirements, thereby achieving stronger academic outcomes (Panergalin & Busico, 2025).

Conversely, students from lower-income households may encounter interruptions in learning due to unstable internet connections, shared devices, or the absence of conducive study spaces, all of which negatively affect academic performance. Socioeconomic status has consistently been identified as a strong predictor of academic success, particularly in technology-driven learning environments. Families with higher income can invest in supplementary learning materials, tutoring, and improved study conditions, whereas lower-income families often rely solely on school-provided resources (Casas, 2023). The varied distribution of family income among respondents highlights the diverse socioeconomic backgrounds of senior high school students. This diversity is critical in analyzing blended learning outcomes, as students from higher-income brackets are more likely to thrive, while those from lower-income groups may require additional institutional support. The findings emphasize the importance of designing equitable blended learning strategies that address resource gaps, ensuring that students across all income levels can benefit from this educational approach.

Furthermore, the income distribution presented in Table 5 provides valuable context for understanding the relationship between blended learning and academic performance. Students from higher-income households are better positioned to succeed due to greater access to technology and support, while those from lower-income households face barriers that may hinder engagement and achievement. Addressing these disparities through targeted interventions—such as school-provided devices, subsidized internet access, and enhanced teacher support—can help ensure that blended learning fosters success for all students, regardless of socioeconomic status.

Table 6. Frequency and Percentage of the Profile of the Respondents in terms of Parents’ Highest Educational Attainment

Highest Educational Attainment	Frequency	Percentage
Associate	3	1.36
College Graduate	56	25.34

College Undergraduate	48	21.72
High School Graduate	73	33.03
High School Undergraduate	26	11.76
Elementary Graduate	11	4.98
Elementary Undergraduate	3	1.36
No Formal Education	1	0.45
Total	221	100.00

Table 6 presents the frequency and percentage distribution of respondents based on their parents' highest educational attainment. The data reveal that 73 respondents (33.03%) reported parents who were high school graduates, 56 (25.34%) had parents who were college graduates, 48 (21.72%) had parents who were college undergraduates, 26 (11.76%) had parents who were high school undergraduates, 11 (4.98%) had parents who were elementary graduates, and six (2.72%) had parents who were either associate degree holders or elementary undergraduates. Only one respondent indicated that their parent had no formal education.

The findings consistently demonstrate that parents with higher educational attainment are better positioned to provide academic support, guidance, and motivation to their children. In the Philippine context, parental involvement has been shown to significantly influence learners' academic performance in blended learning modalities (Panergalin & Busico, 2025). Parents who are college graduates or who have completed higher levels of education tend to place greater value on academic success and encourage effective study habits, thereby enhancing students' performance in blended learning environments. Since blended learning requires students to balance independent online study with classroom instruction, parents with higher educational attainment often contribute stronger support in terms of monitoring, motivation, and resource provision. A study conducted in Bohol, Philippines, further established that parental support and motivational practices were directly linked to improved academic performance in blended learning (Tunga, 2023).

Conversely, students whose parents have lower educational attainment may encounter challenges due to limited academic guidance at home, which can hinder their adaptation to blended learning. Parental education is also closely associated with socioeconomic status. Families with higher educational attainment generally have greater access to resources such as technology, internet connectivity, and study materials, all of which are essential for success in blended learning (Olivar & Naparan, 2023). In contrast, students from households where parents have only elementary education or no formal schooling may struggle with limited academic support and fewer resources, negatively affecting their learning outcomes.

The distribution of parental educational attainment underscores the diversity of student backgrounds. With a majority of parents being high school or college graduates, many students benefit from supportive home environments conducive to blended learning. However, the presence of respondents whose parents attained only elementary education or had no formal schooling highlights the need for institutional support mechanisms. Teachers and administrators must acknowledge these disparities and implement targeted interventions to ensure equitable learning outcomes across all student groups.

The data presented in Table 6 reinforce the importance of parental educational attainment as a contextual factor in analyzing the relationship between blended learning and academic performance. Students with parents who achieved higher levels of education are more likely to succeed due to stronger academic support and resource availability, while those from less educated households may require

additional institutional assistance. These findings emphasize the critical role of parental involvement and highlight the necessity for schools to design inclusive strategies that address differences in family educational backgrounds.

Table 7. Frequency and Percentage of the Profile of the Respondents in terms of Parents' Employment Status

Employment Status	Frequency	Percentage
Permanent	103	46.61
Contractual	63	28.51
Owned a Business	31	14.03
Not Working	24	10.86
Total	221	100.00

Table 7 presents the frequency and percentage distribution of respondents according to their parents' employment status. The data show that 103 respondents (46.61%) reported parents with permanent employment, 63 (28.51%) with contractual employment, 31 (14.03%) with business ownership, and 24 (10.86%) with no employment.

Parents with permanent employment are generally more capable of providing consistent financial and emotional support to their children. Stable income enables families to invest in essential educational resources such as laptops, internet connectivity, and supplementary materials, all of which are critical for success in blended learning. A study conducted in Bohol, Philippines, found that parental support and motivational practices were significantly associated with improved academic performance in blended learning (Tunga, 2024). In contrast, parents employed on a contractual basis may experience income instability, which can affect their ability to sustain educational support. This instability often results in challenges in maintaining access to technology and internet services, thereby limiting students' participation in blended learning. Panergalin and Busico (2025) emphasized that parental involvement and resource provision are crucial determinants of student success in blended learning modalities.

Parents who own businesses may have greater flexibility in supporting their children's education, both financially and in terms of time availability. However, business-related demands can also restrict direct parental involvement. Studies on blended learning implementation in the Philippines highlight that parental engagement, regardless of employment type, plays a vital role in motivating students and enhancing academic outcomes. Conversely, students whose parents are unemployed often face significant barriers due to limited access to resources. Financial instability can hinder the ability to afford devices, internet connectivity, or conducive study environments, which negatively impacts student engagement and performance in blended learning contexts.

The distribution of parental employment status reflects the diverse socioeconomic backgrounds of senior high school students. The predominance of parents with permanent employment suggests that many students benefit from stable support systems conducive to blended learning. However, the presence of students whose parents are in contractual work, business ownership, or unemployed underscores the need for institutional strategies to bridge resource gaps. School-based interventions such as device lending programs, subsidized internet access, and enhanced teacher mentoring can help ensure equitable learning opportunities across all student groups.

The findings in Table 7 underscore the critical role of parental employment status in shaping students' academic performance in blended learning. Stable employment correlates with stronger resource provision and support, while unemployment or contractual work may limit students' access to essential tools. Recognizing these dynamics enables Arellano University to design targeted interventions that address socioeconomic disparities and optimize blended learning outcomes.

2. Perceptions of the Respondents on Blended Learning

Table 8. Mean Rating and Interpretation of the Perception of the Respondents on Blended Learning in terms of Acceptance and Satisfaction

Descriptor	Mean Rating	Interpretation
Blended learning was widely accepted by students as a valuable and innovative approach to education that combines both traditional and online learning modalities.	3.18	Good
Flexibility offered by blended learning, allowing students to customize their learning experiences to suit their individual preferences.	3.19	Good
Acceptance of blended learning is evident through positive feedback from students who appreciate the varied instructional methods and the integration of technology into their educational journey.	3.14	Good
The accessibility of resources in blended learning, citing the ease of accessing materials online as a significant advantage.	3.14	Good
Blended learning is embraced by students for its adaptability to different learning styles, contributing to a more inclusive and personalized educational experience.	3.25	Very Good
The positive perception of blended learning's acceptance extends to its role in preparing students for the demands of the digital age, aligning with their expectations for modern and technology-enhanced education.	3.20	Good
The collaborative opportunities presented in blended learning, fostering a sense of community and shared learning experiences.	3.15	Good
Blended learning is perceived as meeting the expectations of students for a dynamic and interactive learning environment, contributing to high levels of engagement and satisfaction.	3.16	Good
The positive impact on academic performance, as students report improved understanding and retention of course content.	3.15	Good

Blended learning aligns with their preferences for a balanced and integrated learning experience, leading to high levels of acceptance and overall satisfaction.	3.16	Good
General Mean	3.17	Good

Table 8 presents the mean rating and interpretation of the perceptions on blended learning in terms of acceptance and satisfaction. As can be seen from the table, respondents perceived blended learning with a general mean rating of 3.17, interpreted as good.

A study by Pelarca, Malicia, and Nuezca (2024) found that senior high school students in the Philippines expressed positive perceptions of blended learning, noting its ability to combine traditional and online modalities effectively. Students valued the integration of technology and reported higher engagement levels in blended learning environments. This supports the descriptor ratings where students rated blended learning as “Good” in terms of acceptance, flexibility, and adaptability. The mean ratings of 3.19 (“Good”) for flexibility and 3.14 (“Good”) for accessibility reflect this advantage, showing that students recognize the ease of accessing materials and tailoring learning to their preferences. Co (2024) emphasized that blended learning provides flexibility by allowing students to customize their learning experiences and access resources online. This flexibility was particularly appreciated during the pandemic, as it enabled continuity of learning despite restrictions. Research conducted in Isabela, Philippines, demonstrated that blended learning supports diverse learning styles and contributes to improved academic performance, particularly in critical thinking and problem-solving skills (Gasmin, et. al. 2022). This aligns with the highest rating in Table 10 (3.25, “Very Good”), which highlights students’ appreciation of blended learning’s adaptability and inclusivity.

The rating of 3.20 (“Good”) for this descriptor confirms that students at Arellano University share this perception. Studies emphasize that blended learning equips students with digital literacy and self-regulation skills necessary for success in modern education. Pelarca et al. (2024) noted that students viewed blended learning as preparing them for the demands of the digital age. Co (2024) reported that blended learning fosters collaborative opportunities and interactive learning environments, contributing to student satisfaction. This is consistent with the ratings of 3.15 (“Good”) for collaboration and 3.16 (“Good”) for engagement, showing that students value the community-building aspects of blended learning.

Philippine studies consistently highlight that blended learning improves understanding, retention, and overall academic performance. Research in Isabela confirmed that students in blended learning programs achieved higher performance compared to those in traditional classrooms (Gasmin, et. al. 2022). The rating of 3.15 (“Good”) for academic performance in Table 10 reflects this positive impact. The findings in Table 8 demonstrate that students generally perceive blended learning positively, with particular strengths in adaptability, flexibility, and preparation for the digital age. These perceptions are consistent with broader Philippine research, which confirms that blended learning enhances engagement, collaboration, and academic performance when supported by accessible resources and effective instructional design.

Table 9. Mean Rating and Interpretation of the Perception of the Respondents on Blended Learning in terms of Engagement

Descriptor	Mean Rating	Interpretation
Blended learning is widely recognized for enhancing student engagement by incorporating diverse and interactive learning activities both online and in traditional classroom settings.	3.14	Good
The integration of multimedia elements in blended learning is perceived as instrumental in capturing and maintaining students' attention, fostering a more engaging learning experience.	3.20	Good
The interactive features in blended learning, reporting increased engagement with course content and fellow learners.	3.11	Good
Blended learning is acknowledged for promoting active participation and collaboration among students, contributing to a dynamic and engaging educational environment.	3.13	Good
Blended learning encourages a sense of curiosity and exploration, leading to higher levels of engagement with the subject matter.	3.14	Good
The inclusion of online components in blended learning is seen as a contributor to increased engagement, allowing students to access resources and participate in discussions beyond traditional class hours.	3.10	Good
The engagement strategies employed in blended learning, citing the variety of activities that cater to different learning preferences.	3.14	Good
Blended learning is perceived as an effective approach for addressing diverse learning styles, ensuring that content is presented in ways that resonate with individual students.	3.18	Good
The positive perception of blended learning's impact on engagement extends to its ability to create a supportive and interactive community of learners.	3.15	Good
Blended learning fosters a sense of ownership and responsibility for their learning, contributing to sustained motivation and engagement throughout the course.	3.17	Good
General Mean	3.15	Good

Table 9 presents the mean rating and interpretation of the extent of implementation of blended learning in terms of engagement. The data indicate that respondents perceived blended learning positively, with a general mean rating of 3.15, interpreted as “Good.”

According to Linguete (2023, blended learning integrates online and face-to-face modalities, enabling students to participate in diverse and interactive activities. This approach has been shown to sustain engagement and improve achievement among secondary school learners in the Philippines. A mixed-method study on senior high school students in Biology further revealed that blended learning enhanced

task completion, attendance, and engagement, underscoring its effectiveness in fostering active participation (Agustin & Asuncion, 2024). The incorporation of multimedia elements—such as videos, simulations, and interactive modules—has also been found instrumental in maintaining students’ attention and enriching learning experiences. Multimedia fosters curiosity and exploration, leading to deeper engagement with subject matter (Angwaomaodoko, 2025). Moreover, blended learning promotes collaboration by facilitating interaction both in physical classrooms and online platforms. This dual modality strengthens peer-to-peer engagement and builds supportive learning communities, consistent with the “Good” ratings for collaboration (3.15) and engagement (3.16) (Linguete, 2023).

The inclusion of online components provides students with access to resources beyond class hours, accommodating diverse learning styles and preferences. Research in the Philippines confirms that blended learning offers flexibility and inclusivity, allowing students to tailor their learning experiences to individual needs (Agustin & Asuncion, 2024). Studies also highlight that blended learning fosters self-regulation and a sense of ownership over learning. By encouraging responsibility and autonomy, students remain motivated and engaged throughout the course, which aligns with the highest descriptor ratings in this study (3.17 for ownership and 3.25 for adaptability) (Angwaomaodoko, 2025).

The general mean rating of 3.15 (“Good”) is consistent with broader findings in both Philippine and international research. Overall, blended learning enhances student engagement through incorporating interactive and multimedia activities, promoting collaboration and community building, providing flexibility and accessibility, and fostering ownership and motivation.

Table 10. Mean Rating and Interpretation of the Perception of the Respondents during the Blended Learning in terms of Collaboration

Descriptor	Mean Rating	Interpretation
Blended learning is widely acknowledged for providing students with a flexible learning environment that accommodates various learning styles and preferences.	3.25	Very Good
The integration of online components in blended learning is perceived as instrumental in offering flexibility in accessing educational content and resources from different locations.	3.15	Good
The flexibility afforded by blended learning, enabling them to adapt their study schedules to individual commitments and preferences.	3.26	Very Good
Blended learning is recognized for its capacity to cater to diverse learning paces, allowing students to progress through content at their own speed.	3.16	Good
Blended learning enhances their ability to balance academic responsibilities with other commitments, fostering a more adaptable approach to education.	3.20	Good
The inclusion of online elements in blended learning is seen as a contributor to time flexibility, providing students with the convenience of accessing materials at their own convenience.	3.23	Good

The flexibility of blended learning, citing the ability to revisit and review materials at their own pace as a significant advantage.	3.22	Good
Blended learning is an effective approach for meeting the needs of diverse learners, offering adaptable pathways for mastering course content.	3.19	Good
The positive perception of blended learning's flexibility extends to its ability to accommodate different learning preferences, including visual, auditory, and kinesthetic styles.	3.19	Good
Blended learning fosters a sense of autonomy and responsibility for their learning journey, promoting self-directed and flexible approaches to education.	3.10	Good
General Mean	3.20	Good

Table 10 shows that flexibility in learning styles received a mean rating of 3.25. Blended learning is commended for accommodating diverse learning preferences—visual, auditory, and kinesthetic. This finding aligns with the study’s focus, as flexibility in instructional delivery enhances academic performance by allowing students to engage with materials in ways most suited to them. Prior studies confirm that blended learning environments foster inclusivity and improve student outcomes by catering to varied preferences (Makabenta & Jadaone, 2022). Accessibility of resources obtained a mean rating of 3.15, interpreted as “Good.” Co (2025) emphasizes that the integration of online components provides students with access to educational content anytime and anywhere, thereby reducing barriers to learning. Research conducted in Philippine senior high schools further supports this, showing that online elements in blended learning improve resource accessibility and student satisfaction.

Additionally, the adaptability of study schedules achieved a mean rating of 3.26, interpreted as “Very Good.” Students value the ability to adjust study schedules around personal commitments, which reduces stress and promotes consistent study habits—both crucial for academic success. Agustin and Asuncion (2024) found that blended learning improved attendance and task completion among ABM students, underscoring its role in balancing academic and personal responsibilities. Self-Paced learning received a mean rating of 3.16, also interpreted as “Good.” Blended learning allows students to progress at their own pace, fostering mastery of content. However, the rating suggests that some students may still struggle with self-regulation. Literature highlights that while self-paced learning promotes deeper understanding, it requires strong learner autonomy (Makabenta & Jadaone, 2022). Balancing commitments garnered a mean rating of 3.20, interpreted as “Good.” According to Agustin and Asuncion (2024), students recognize blended learning as an effective means of balancing academics with other responsibilities. This adaptability supports holistic student development by integrating academic and personal life.

Moreover, time flexibility received a mean rating of 3.23, also interpreted as “Good.” The convenience of accessing materials at preferred times strengthens independent learning by enabling students to revisit lessons and reinforce comprehension (Co, 2025). Similarly, the ability to review and revisit materials obtained a mean rating of 3.22, interpreted as “Good.” Students appreciate the opportunity to revisit lessons, which aids retention and comprehension—key factors in academic performance. This is consistent with studies highlighting blended learning’s role in reinforcing knowledge through repeated exposure (Makabenta & Jadaone, 2022). Meeting diverse learner needs received a mean rating of 3.19, interpreted as “Good.” Blended learning provides multiple pathways for mastering content, aligning with the goal of improving performance across varied learners. Research confirms that blended learning supports

differentiated instruction and enhances achievement (Agustin & Asuncion, 2024). Autonomy and responsibility obtained a mean rating of 3.10, interpreted as “Good.” Students acknowledge that blended learning fosters independence. However, the relatively lower score suggests that some learners may require additional guidance in managing self-directed learning. Studies emphasize that autonomy is a critical yet challenging aspect of blended learning.

Overall, the findings affirm the study’s title by demonstrating that blended learning contributes to academic performance through flexibility, accessibility, and adaptability. Students generally rated their experiences as “Good” to “Very Good,” confirming that blended learning is an effective educational approach in Arellano University’s senior high school context.

Table 11. Mean Rating and Interpretation of the Perception of the Respondents during the Blended Learning in terms of Collaboration

Descriptor	Mean Rating	Interpretation
Blended learning is perceived as a facilitator of collaborative opportunities among students, fostering teamwork and shared learning experiences.	3.16	Good
The integration of online platforms and collaborative tools in blended learning environments is widely acknowledged for enhancing students' ability to work together on projects and assignments.	3.20	Good
Blended learnings impact on collaborative skills, attributing it to increased interaction and communication with peers in both virtual and physical spaces.	3.15	Good
Blended learning is recognized for promoting a sense of community and cooperation among students, transcending traditional classroom boundaries.	3.12	Good
Blended learning provides a conducive environment for collaborative problem-solving, encouraging the exchange of ideas and perspectives.	3.16	Good
The inclusion of collaborative elements in blended learning is perceived as instrumental in preparing students for collaborative aspects of the modern workforce.	3.14	Good
Blended learning is seen as an effective approach for developing teamwork and interpersonal skills, contributing to a more interactive and dynamic learning environment.	3.19	Good
The positive perception of blended learning's impact on collaboration extends to its ability to accommodate diverse learning styles and preferences.	3.18	Good

Blended learning encourages a culture of mutual support and shared knowledge, reinforcing the notion that education is a collective endeavor.	3.26	Very Good
General Mean	3.17	Good

Table 11 presents the results on collaborative dimensions of blended learning. Facilitating collaborative opportunities obtained a mean rating of 3.16, interpreted as “Good.” Kong (2021) emphasized that blended learning integrates face-to-face and online modalities, thereby creating multiple avenues for student collaboration. Studies conducted in Philippine senior high schools further confirm that collaborative learning enhances academic performance by enabling peer support and teamwork, particularly for students who may struggle academically. Integration of online platforms and tools received a mean rating of 3.20, also interpreted as “Good.” The use of platforms such as google classroom and Microsoft Teams allows students to co-create projects and assignments beyond classroom hours. Co (2025) highlighted that online components in blended learning increase accessibility and foster collaboration across academic strands.

In addition, impact on collaborative skills garnered a mean rating of 3.15, interpreted as “Good.” Blended learning environments encourage interaction in both virtual and physical spaces. Agustin and Asuncion (2024) reported that blended learning improved attendance and task completion among ABM students, indirectly supporting collaborative engagement. A Sense of community and cooperation received a mean rating of 3.12, interpreted as “Good.” Kong (2021) noted that blended learning transcends traditional classroom boundaries by promoting a sense of belonging. Research underscores that collaborative learning fosters inclusivity and community building, which are essential for student motivation and performance. Collaborative problem-solving achieved a mean rating of 3.16, interpreted as “Good.” The blended format provides a conducive environment for exchanging ideas and perspectives. This aligns with findings that collaborative learning develops critical thinking and problem-solving skills, preparing students for complex academic and real-world challenges.

Furthermore, preparation for workforce collaboration received a mean rating of 3.14, interpreted as “Good.” Blended learning mirrors workplace dynamics by requiring teamwork in both digital and physical contexts. Agustin and Asuncion (2024) emphasized that collaborative elements in blended learning prepare students for professional environments where cooperation and adaptability are essential. Teamwork and interpersonal skills obtained a mean rating of 3.19, interpreted as “Good.” Students perceive blended learning as effective in developing interpersonal communication and teamwork. This is consistent with research showing that collaborative learning nurtures social skills and enhances academic engagement (Kong, 2021). Accommodation of diverse learning styles received a mean rating of 3.18, interpreted as “Good.” The flexibility of blended learning allows students with varied learning preferences to collaborate effectively. Co (2025) noted that online components support inclusivity by catering to diverse learning styles, thereby strengthening group work outcomes.

Finally, Culture of Mutual Support achieved the highest mean rating of 3.26, interpreted as “Very Good.” This reflects students’ appreciation of shared knowledge and peer support. Kong (2021) emphasized that collaborative learning in blended environments reinforces the notion of education as a collective endeavor, enhancing both academic performance and social cohesion.

Table 12. Mean Rating and Interpretation of the Perception of the Respondents during the Blended Learning in terms of Technology Skill

Descriptor	Mean Rating	Interpretation
Blended learning is widely recognized for its positive impact on students' technology skills, fostering proficiency in navigating digital tools and platforms.	3.27	Very Good
The integration of technology in blended learning is perceived as a strategic approach to enhance students' adaptability to a technologically evolving educational landscape.	3.24	Good
Blended learning as a means to improve their technological literacy, providing practical skills applicable to real-world scenarios.	3.22	Good
Blended learning is acknowledged for its role in equipping learners with the competence to effectively utilize a diverse range of online resources and educational software.	3.21	Good
A positive experience in developing collaboration and communication skills through technology-enabled aspects of blended learning.	3.22	Good
The incorporation of technology in blended learning is seen as a catalyst for cultivating a digital mindset among learners, preparing them for the demands of the modern workforce.	3.21	Good
Blended learning environments receive favorable feedback for contributing to students' confidence in engaging with educational content through various online platforms.	3.22	Good
Blended learning is a dynamic approach that goes beyond traditional boundaries, offering opportunities for practical application of technology skills.	3.19	Good
The positive perception of blended learning underscores its role in fostering a seamless integration of technology into the educational experience, enhancing overall learning outcomes.	3.24	Good
Blended learning is recognized for its ability to empower students with the necessary skills to navigate and adapt to the ever-evolving landscape of educational technology.	3.29	Good
General Mean	3.23	Good

Table 12 presents the results on the technological dimensions of blended learning. Technology skills development obtained a mean rating of 3.27, interpreted as “Very Good.” Blended learning is widely recognized for strengthening students’ ability to navigate digital tools and platforms. In Philippine senior high schools, the integration of online components has been shown to enhance technological literacy and

build confidence in using educational software, which directly supports academic achievement (Co, 2025). Adaptability to a technological landscape received a mean rating of 3.24, interpreted as “Good.” The integration of technology in blended learning improves students’ adaptability to evolving educational environments. Agustin and Asuncion (2024) found that blended learning increased attendance and task completion among ABM students, partly due to their growing comfort with digital platforms, which supports consistent academic performance.

Moreover, technological literacy and real-world application garnered a mean rating of 3.22, interpreted as “Good.” Blended learning provides practical skills applicable beyond the classroom. Students gain experience using tools such as Google Classroom, Microsoft Teams, and other online resources, preparing them for real-world scenarios where digital literacy is essential (Co, 2025). Similarly, competence in online resources achieved a mean rating of 3.21, also interpreted as “Good.” Students acknowledged that blended learning equips them with the ability to effectively utilize diverse online resources, supporting independent learning and academic success by enabling access to materials anytime and reinforcing comprehension (Linguete, 2023). Collaboration and communication via technology received a mean rating of 3.22, interpreted as “Good.” Technology-enabled aspects of blended learning foster collaboration and communication among peers. Kong (2021) emphasized that blended learning transcends traditional boundaries, promoting teamwork and shared learning experiences, which are crucial for academic engagement.

Furthermore, cultivating a digital mindset obtained a mean rating of 3.21, interpreted as “Good.” Blended learning prepares students for the demands of the modern workforce by cultivating a digital mindset. Exposure to technology-rich environments enhances adaptability and problem-solving skills, both of which contribute to academic and professional success (Agustin & Asuncion, 2024). Confidence in online engagement also received a mean rating of 3.22, interpreted as “Good.” Students reported increased confidence in engaging with educational content through online platforms, which is linked to improved participation, retention, and overall academic performance (Co, 2025). Additionally, practical application of technology skills garnered a mean rating of 3.19, interpreted as “Good.” Blended learning extends beyond traditional boundaries by offering opportunities for practical application of technology skills. This experiential learning strengthens mastery and supports long-term academic growth (Linguete, 2023). The seamless integration of technology received a mean rating of 3.24, interpreted as “Good.” Students perceive blended learning as fostering seamless integration of technology into education, enhancing overall learning outcomes by making instruction more accessible, interactive, and engaging (Co, 2025). Finally, empowering students to adapt achieved a mean rating of 3.29, interpreted as “Good.” Blended learning empowers students to navigate and adapt to the evolving landscape of educational technology. This adaptability is critical for sustaining academic performance in dynamic learning environments (Agustin & Asuncion, 2024).

Overall, the general mean of 3.23, interpreted as “Good,” confirms that blended learning is effective in enhancing technological skills among senior high school students at Arellano University. By fostering digital literacy, adaptability, collaboration, and confidence, blended learning contributes directly to improved academic performance. These findings align with broader literature emphasizing blended learning’s role in preparing students for both academic success and the technological demands of the modern workforce.

3. Academic Performance of the Respondents during the First Semester Test of Normality

Table 13. Frequency and Percentage of the Profile of the Respondents in terms of Academic Performance during the First Semester

Academic Performance	Frequency	Percentage
Outstanding	141	63.80
Very Satisfactory	67	30.32
Satisfactory	12	5.43
Fairly Satisfactory	0	0.00
Did not Meet Expectations	1	0.45
Total	221	100.00

Table 13 presents the frequency and percentage distribution of the respondents' academic performance. The data reveal that a majority, or 63.80%, achieved Outstanding performance, while 67 students (30.32%) performed Very Satisfactorily, and 12 students (5.43%) performed Satisfactorily. Notably, only one respondent failed to meet expectations.

Thus, the predominance of Outstanding performance demonstrates the positive impact of blended learning on academic achievement. Agustin and Asuncion (2024) reported that blended learning improved attendance, task completion, and engagement among ABM students—factors that are critical to higher academic performance. This suggests that the flexibility and accessibility inherent in blended learning enabled students to maximize their learning potential, resulting in exceptional outcomes.

In addition, the substantial proportion of students who performed Very Satisfactorily further indicates that blended learning supports consistent achievement across diverse learners. Co (2025) emphasized that the integration of online components in blended learning increases accessibility to educational content anytime and anywhere, thereby reducing barriers to learning and enabling students to sustain strong performance. Meanwhile, the smaller group of students who performed Satisfactorily may reflect challenges in self-regulation or adaptation to blended learning. Research highlights that while blended learning fosters inclusivity, some students require additional support in managing independent study habits (Agustin & Asuncion, 2024). The fact that only one respondent failed underscores the overall effectiveness of blended learning in minimizing academic failure. Studies in Philippine contexts confirm that blended learning promotes student satisfaction, inclusivity, and improved outcomes, thereby reducing dropout and failure rates (Co, 2025).

Generally, a distribution of academic performance in Table 13 aligns with the study's title, "Blended Learning and Academic Performance of Senior High School Students in Arellano University—Andres Bonifacio Campus, Pasig City." The predominance of Outstanding and Very Satisfactory ratings demonstrates that blended learning fosters academic excellence by enhancing technological literacy and adaptability, supporting collaboration and engagement, and providing flexibility and accessibility to resources. These findings are consistent with broader literature recognizing blended learning as an effective educational approach for improving student achievement in Philippine senior high schools.

Table 14. Test of Normality in terms of the Perception of the Respondents on Blended Learning

Factors in the Level of Perception on Blended Learning	Most Extreme Difference			Kolmogorov-Smirnov Test	
	Absolute	Positive	Negative	Statistic	Asymp. Sig. (2-tailed)
Acceptance and Satisfaction	0.110	0.098	-0.110	0.110	0.244
Engagement	0.111	0.111	-0.110	0.111	0.244
Flexibility	0.120	0.120	-0.102	0.120	0.244
Collaboration	0.128	0.125	-0.128	0.128	0.244
Technology Skills	0.160	0.160	-0.103	0.160	0.244

Table 14 presents the test of normality regarding respondents' perceptions of blended learning, using the Kolmogorov-Smirnov (K-S) Test. As shown in the table, the computed significance values for all factors of perception are higher than the asymptotic significance ($KS = 0.244$). This indicates that the data follow a normal distribution. Consequently, Analysis of Variance (ANOVA) was employed to examine significant differences between respondents' perceptions of blended learning and their demographic profile.

The results suggest that students generally perceive blended learning positively, with no extreme deviations in their responses. Research in Philippine senior high schools confirms that blended learning enhances satisfaction by providing accessible resources and flexible learning opportunities (Co, 2025). The normal distribution of responses reinforces the conclusion that satisfaction is consistently experienced across the student population. Engagement, which reflects active participation in blended learning environments, also showed stable perceptions. Villanueva et al. (2023) found that blended learning fosters meaningful interaction through the Community of Inquiry framework, strengthening cognitive, social, and teaching presence in Philippine classrooms.

Furthermore, flexibility emerged as another key advantage, allowing students to adjust study schedules and access materials at their convenience. The non-significant result indicates that perceptions of flexibility are evenly distributed, suggesting broad agreement among respondents. Studies highlight that flexibility reduces stress and supports consistent study habits, which are crucial for academic success (Agustin & Asuncion, 2024). Collaboration was likewise recognized as a vital component of blended learning, enabling teamwork and shared learning experiences. The K-S test confirms that perceptions of collaboration are stable across respondents. Kong (2021) emphasized that blended learning transcends traditional classroom boundaries by fostering a sense of community and cooperation, which enhances student motivation and performance. Additionally, technology skills recorded the highest statistic value, yet the significance level remained non-significant. This suggests that while perceptions varied slightly more in this area, they still fell within a normal distribution. Co (2025) noted that blended learning strengthens technological literacy by familiarizing students with digital platforms, thereby preparing them for real-world applications and workforce demands.

Holistically, the Asymp. Sig. (2-tailed) value of 0.244 across all factors confirms that the data are normally distributed, validating the consistency of student perceptions. This strengthens the credibility of the study's findings, showing that blended learning is perceived positively in terms of satisfaction, engagement, flexibility, collaboration, and technology skills (Pelarca et al., 2024). These results align with broader literature emphasizing that blended learning enhances inclusivity, digital competence, and academic performance in Philippine senior high schools.

Table 15. Test of Normality in terms of the Profile of the Respondents

Profile of the Respondents	Most Extreme Difference			Kolmogorov-Smirnov Test	
	Absolute	Positive	Negative	Statistic	Asymp. Sig. (2-tailed)
Monthly Family Income	0.167	0.167	-0.143	0.167	0.510
Parents' Highest Educational Attainment	0.166	0.166	-0.165	0.166	0.510
Parents' Employment Status	0.276	0.276	-0.190	0.276	0.510

Table 15 presents the test of normality in terms of the perceptions of the respondents on blended learning using Kolmogorov-Smirnov Test. As can be seen from the table, the computed significant values in all areas of factors of perception is higher than the asymptotic significance (KS=0.510); thus, the test follow the normal distribution. Therefore, Pearson Product-moment correlational test was used in the test of significant correlation between the academic performance of the respondents on blended learning and their profile.

With that, the normal distribution of responses suggests that students across different income levels had consistent perceptions of blended learning. Research in Philippine senior high schools shows that blended learning reduces barriers to access by providing online resources that can be used regardless of socioeconomic status (Co, 2025). This supports equitable participation among students from varying family income brackets.

Additionally, the results indicate that perceptions of blended learning were stable across respondents, regardless of their parents' educational background. Studies highlight that parental education influences academic support at home, but blended learning environments provide structured guidance and accessible materials that help level the playing field for students (Villanueva et al., 2023). This explains why perceptions remained consistent across groups. Although this factor had the highest statistic value, the significance level remained non-significant, confirming normal distribution. Employment status can affect the amount of time parents spend supporting their children's education. However, blended learning's flexibility allows students to manage their own schedules and access resources independently, reducing reliance on parental availability (Agustin & Asuncion, 2024). The Asymp. Sig. value of 0.510 across all profile variables confirms that the data are normally distributed, strengthening the validity of the study's findings. This suggests that students' perceptions of blended learning are consistent regardless of family income, parental education, or employment status.

These results align with broader literature emphasizing that blended learning fosters inclusivity and equal opportunity by providing accessible resources across socioeconomic groups (Co, 2025). Supporting independent learning regardless of parental background (Villanueva et al., 2023). Offering flexibility that accommodates diverse household circumstances (Agustin & Asuncion, 2024)

Thus, the normal distribution of respondent profiles reinforces the credibility of the study and highlights blended learning's role in promoting equitable academic performance among senior high school students in the Philippines.

4. Significant Difference between the Perceptions of the Respondents on Blended Learning in terms of Acceptance and Satisfaction when Grouped according to their Profile

Table 16. Difference in the Perception of the Respondents on Blended Learning terms of Acceptance and Satisfaction and their Profile

Profile of the Respondents	Sum of Squares		Mean Square		F value		Decision
	Between Groups	Within Groups	Between Groups	Within Groups	Statistic	Critical	
Monthly Family Income	54.789	379.193	2.609	1.905	1.369	0.137	Reject Ho (Significant)
Parents' Highest Educational Attainment	76.343	312.879	2.207	1.572	1.404	0.120	Reject Ho (Significant)
Parents' Employment Status	16.401	210.993	0.781	1.060	0.737	0.792	Accept Ho (Not Significant)
Degrees of Freedom: Between = 21; Within = 199							

Table 16 presents the differences in respondents' perceptions of blended learning in terms of acceptance and satisfaction, analyzed using the Analysis of Variance (ANOVA). As shown in the table, the computed significance values for monthly family income ($F = 0.137$), and parents' highest educational attainment ($F = 0.120$) were all lower than the computed F statistic; thus, the null hypothesis was rejected. In contrast, the significance value for parents' employment status ($F = 0.792$) was higher than the computed F statistic, leading to the acceptance of the null hypothesis.

The results reveal that monthly family income and parents' highest educational attainment yielded significant differences in perceptions, while parents' employment status did not. The significant findings suggest that students' perceptions of blended learning vary according to their family's socioeconomic and educational background. Co (2025) emphasized that socioeconomic status influences access to technology and learning resources, which in turn shapes students' experiences in blended learning environments. Additionally, families with higher income are more likely to provide stable internet connections and devices, enabling smoother participation in online components. Similarly, parental education plays a role in shaping students' perceptions of blended learning. Villanueva et al. (2023) noted that parents with higher educational attainment are more likely to provide academic support and encourage effective study habits, which positively influence students' engagement in technology-enhanced education. This aligns with findings that parental background contributes to learners' confidence and adaptability in blended learning environments. On the other hand, the non-significant result for parents' employment status suggests that this factor does not substantially affect students' perceptions of blended learning. Agustin and Asuncion (2024) observed that blended learning's flexibility allows students to manage their own schedules and access resources independently, thereby reducing reliance on parental availability. This explains why employment status did not yield significant differences in perceptions.

Overall, the ANOVA results confirm that socioeconomic and educational background factors—specifically family income and parental education—significantly influence students’ perceptions of blended learning, while employment status does not. These findings are consistent with broader literature emphasizing that blended learning promotes inclusivity but remains shaped by access to resources and parental support (Co, 2025; Villanueva et al., 2023; Agustin & Asuncion, 2024). This supports the study’s title, “Blended Learning and Academic Performance of Senior High School Students in Arellano University–Andres Bonifacio Campus, Pasig City,” by demonstrating that while blended learning is effective in enhancing academic performance, students’ experiences and perceptions are partly influenced by their family background.

Table 17. Difference in the Perception of the Respondents on Blended Learning in terms of Engagement and their Profile

Profile of the Respondents	Sum of Squares		Mean Square		F value		Decision
	Between Groups	Within Groups	Between Groups	Within Groups	Statistic	Critical	
Monthly Family Income	45.123	388.859	2.256	1.944	1.160	0.292	Reject Ho (Significant)
Parents' Highest Educational Attainment	36.532	359.222	1.827	1.613	1.132	0.319	Reject Ho (Significant)
Parents' Employment Status	15.001	212.392	0.750	1.062	0.706	0.817	Accept Ho (Not Significant)
Degrees of Freedom: Between = 20; Within = 200							

Table 17 presents the significant differences in respondents’ perceptions of blended learning in terms of engagement, analyzed using the Analysis of Variance (ANOVA). As shown in the table, the computed significance values for age monthly family income ($F = 0.292$), and parents’ highest educational attainment ($F = 0.319$) were all lower than the computed F statistic; thus, the null hypothesis was rejected. In contrast, the significance value for parents’ employment status ($F = 0.817$) was higher than the computed F statistic, leading to the acceptance of the null hypothesis.

The ANOVA results reveal that monthly family income and parents’ highest educational attainment yielded significant differences in perceptions, while parents’ employment status did not. The significant findings suggest that students’ perceptions of blended learning vary according to their family’s socioeconomic and educational background. Co (2025) emphasized that socioeconomic status influences access to technology and learning resources, which in turn shapes students’ experiences in blended learning environments. Families with higher income are more likely to provide stable internet connections and devices, enabling smoother participation in online components and fostering more positive perceptions of blended learning.

Similarly, the significant difference in parental education indicates its role in shaping students’ perceptions of blended learning. Villanueva et al. (2023) found that parents with higher educational

attainment are more likely to provide academic support and encourage effective study habits, which positively influence students' engagement in blended learning. This aligns with findings that parental background contributes to learners' confidence and adaptability in technology-enhanced education. However, the non-significant result for parents' employment status suggests that this factor does not substantially affect students' perceptions of blended learning. Agustin and Asuncion (2024) noted that blended learning's flexibility allows students to manage their own schedules and access resources independently, thereby reducing reliance on parental availability. This explains why employment status did not yield significant differences in perceptions.

Holistically, the ANOVA results confirm that socioeconomic and educational background factors—specifically family income and parental education—significantly influence students' perceptions of blended learning, while employment status does not. These findings are consistent with broader literature emphasizing that blended learning promotes inclusivity but remains shaped by access to resources and parental support (Co, 2025; Villanueva et al., 2023; Agustin & Asuncion, 2024). This supports the study's title, "Blended Learning and Academic Performance of Senior High School Students in Arellano University–Andres Bonifacio Campus, Pasig City," by demonstrating that while blended learning is effective in enhancing academic performance, students' experiences and perceptions are partly influenced by their family background.

Table 18. Difference in the Perception of the Respondents on Blended Learning in terms of Flexibility and their Profile

Profile of the Respondents	Sum of Squares		Mean Square		F value		Decision
	Between Groups	Within Groups	Between Groups	Within Groups	Statistic	Critical	
Monthly Family Income	51.621	382.361	2.581	1.912	1.350	0.152	Reject Ho (Significant)
Parents' Highest Educational Attainment	26.525	332.696	1.326	1.663	0.797	0.712	Reject Ho (Significant)
Parents' Employment Status	12.719	214.675	0.636	1.073	0.592	0.915	Accept Ho (Not Significant)
Degrees of Freedom: Between = 20; Within = 200							

Table 18 presents the significant differences in respondents' perceptions of blended learning in terms of flexibility, analyzed using the Analysis of Variance (ANOVA). As shown in the table, the computed significance values for monthly family income ($F = 0.152$), and parents' highest educational attainment ($F = 0.712$) were all lower than the computed F statistic; thus, the null hypothesis was rejected. In contrast, the significance value for parents' employment status ($F = 0.915$) was higher than the computed F statistic, leading to the acceptance of the null hypothesis.

The statistical results indicate that monthly family income and parents' highest educational attainment significantly influence students' perceptions of blended learning, while parents' employment

status does not. When these findings are considered alongside the academic performance distribution in Table 13—where the majority of students (63.80%) achieved Outstanding performance and only one respondent failed—it becomes evident that family background plays a role in shaping both perceptions and outcomes. Students from families with higher income levels are more likely to have access to stable internet connections, digital devices, and supplementary learning resources. This access facilitates smoother participation in blended learning, which in turn supports higher academic achievement. Co (2025) emphasized that socioeconomic status directly impacts students’ ability to engage with online components of blended learning, thereby contributing to stronger performance outcomes.

Additionally, parental education also influences the type of academic support students receive at home. Villanueva et al. (2023) found that parents with higher educational attainment are more likely to encourage effective study habits and provide guidance, which enhances students’ engagement and confidence in blended learning environments. This support helps explain why a large proportion of students achieved Outstanding and Very Satisfactory ratings in Table 13. Conversely, the non-significant result for employment status suggests that whether parents are employed or not does not substantially affect students’ perceptions or performance. Agustin and Asuncion (2024) noted that blended learning’s flexibility allows students to manage their own schedules and access resources independently, reducing reliance on parental availability. This independence helps explain why employment status did not emerge as a significant factor in either perceptions or performance outcomes.

In summary, the results demonstrate that family income and parental education significantly shape students’ perceptions of blended learning and indirectly influence academic performance, while employment status does not. This supports the conclusion that blended learning is effective in fostering academic excellence, but its impact is mediated by access to resources and parental support. These findings align with broader literature emphasizing that blended learning promotes inclusivity and improved outcomes, yet disparities in socioeconomic and educational background continue to influence student success (Co, 2025; Villanueva et al., 2023; Agustin & Asuncion, 2024).

**Table 19. Difference in the Perception of the Respondents
 on Blended Learning in terms of Collaboration in their Profile**

Profile of the Respondents	Sum of Squares		Mean Square		F value		Decision
	Between Groups	Within Groups	Between Groups	Within Groups	Statistic	Critical	
Monthly Family Income	55.790	378.192	2.657	1.900	1.398	0.122	Reject Ho (Significant)
Parents' Highest Educational Attainment	30.133	329.088	1.435	1.654	0.868	0.633	Reject Ho (Significant)
Parents' Employment Status	17.707	209.687	0.843	1.054	0.800	0.718	Reject Ho (Significant)
Degrees of Freedom: Between = 21; Within = 199							

Table 19 presents the significant differences in respondents’ perceptions of blended learning in terms of collaboration, analyzed using the Analysis of Variance (ANOVA). As shown in the table, the computed significance values for monthly family income ($F = 0.122$), parents’ highest educational attainment ($F = 0.633$), and parents’ employment status ($F = 0.718$) were all lower than the computed F statistic; thus, the null hypothesis was rejected. In contrast, the significance value for sex ($F = 0.950$) was higher than the computed F statistic, leading to the acceptance of the null hypothesis.

The ANOVA results indicate that monthly family income, parents’ highest educational attainment, and parents’ employment status significantly influence students’ perceptions of blended learning, while sex does not. The significant findings suggest that students’ perceptions of blended learning vary according to their family’s socioeconomic and educational background. Co (2025) emphasized that socioeconomic status directly affects access to technology and learning resources, which in turn shapes students’ experiences in blended learning environments. Families with higher income are more likely to provide stable internet connections, digital devices, and supplementary learning materials, enabling smoother participation in online components and fostering more positive perceptions of blended learning.

Similarly, parental education plays a critical role in shaping students’ perceptions of blended learning. Villanueva et al. (2023) found that parents with higher educational attainment are more likely to encourage effective study habits and provide academic support, which positively influences students’ engagement and confidence in blended learning environments. This aligns with findings that parental background contributes to learners’ adaptability and motivation in technology-enhanced education. Unlike earlier results where employment status was not significant, this analysis suggests that parents’ employment status may influence students’ perceptions of blended learning. Agustin and Asuncion (2024) noted that parental employment can affect the amount of time and support available to students. Employed parents may provide financial stability that ensures access to devices and connectivity, while unemployed parents may have more time to supervise but fewer resources to support online learning. This dual effect helps explain why employment status emerged as a significant factor in this analysis.

Overall, the ANOVA results confirm that socioeconomic and educational background factors—including family income, parental education, and employment status—significantly shape students’ perceptions of blended learning. These findings are consistent with broader literature emphasizing that while blended learning promotes inclusivity and improved outcomes, disparities in family background continue to influence student experiences and perceptions (Co, 2025; Villanueva et al., 2023; Agustin & Asuncion, 2024). This supports the study’s title, “Blended Learning and Academic Performance of Senior High School Students in Arellano University–Andres Bonifacio Campus, Pasig City,” by demonstrating that while blended learning is effective in enhancing academic performance, students’ experiences are mediated by their socioeconomic and parental background.

Table 20. Difference in the Perception of the Respondents on Blended Learning in terms of Technology Skill and their Profile

Profile of the Respondents	Sum of Squares		Mean Square		F value		Decision Within Groups
	Between Groups	Within Groups	Between Groups	Within Groups	Statistic	Between Groups	
Monthly Family Income	45.777	388.205	2.409	1.931	1.247	0.233	Reject Ho (Significant)

Parents' Highest Educational Attainment	42.249	316.793	2.233	1.576	1.417	0.122	Reject Ho (Significant)
Parents' Employment Status	12.179	215.214	0.641	1.071	0.599	0.905	Accept Ho (Not Significant)
Degrees of Freedom: Between = 19; Within = 201							

Table 20 reveal the analysis of variance (ANOVA) results, showing the differences in perceptions of blended learning in terms of flexibility across respondent profiles. As indicated, the computed F statistics for age monthly family income ($F = 1.247$), and parents' highest educational attainment ($F = 1.417$) all exceeded their respective critical values (0.233 and 0.122). Consequently, the null hypothesis was rejected, signifying that these variables exert a significant influence on students' perceptions of blended learning. In contrast, the F statistic for parents' employment status ($F = 0.599$) was lower than the critical value (0.905), leading to the acceptance of the null hypothesis. This indicates that employment status does not significantly affect students' perceptions.

Furthermore, the significant relationship between monthly family income and academic performance suggests that students from higher-income households are more likely to succeed in blended learning due to better access to technological resources and stable internet connectivity, which are essential for effective participation (Garcia et al., 2022). Similarly, the significant effect of parents' educational attainment implies that students whose parents have attained higher levels of education benefit from stronger academic guidance and encouragement, fostering positive attitudes toward blended learning (Agustin & Asuncion, 2024). Conversely, the non-significant result for parents' employment status indicates that whether parents are employed or not does not substantially influence students' adaptability to blended learning (Co, 2025).

Overall, these findings align with existing literature on Philippine senior high schools, which consistently highlight the importance of socioeconomic factors—particularly family income and parental education—in shaping blended learning outcomes. Access to digital resources and parental involvement remain critical determinants of student success, while employment status appears to play a minimal role (Agustin & Asuncion, 2024). The persistence of digital divide issues, such as limited device ownership and poor connectivity, underscores the need for institutional support to ensure equitable learning opportunities.

5. Significant Difference Between the Academic Performance of the Respondents during the First Semester when Grouped according to their Profile

Table 21. Difference in the Academic Performance of the Respondents during the first semester and their profile

Profile of the Respondents	Sum of Squares		Mean Square		F value		Decision Within Groups
	Between Groups	Within Groups	Between Groups	Within Groups	Statistic	Critical	

Monthly Family Income	41.384	392.148	2.461	1.932	1.274	0.212	Reject Ho (Significant)
Parents' Highest Educational Attainment	18.594	340.628	1.094	1.678	0.652	0.847	Accept Ho (Not Significant)
Parents' Employment Status	30.602	196.792	1.800	0.969	1.857	0.024	Reject Ho (Significant)
Degrees of Freedom: Between = 17; Within = 203							

Table 21 shows the analysis of variance (ANOVA) results examining the differences in academic performance of senior high school students during the first semester in relation to their profile variables. The findings reveal varying degrees of influence across monthly family income, parents' highest educational attainment, and parents' employment status.

The results show that monthly family income has a significant effect on academic performance ($F = 1.274$, critical value = 0.212). This indicates that students from higher-income households tend to perform better in blended learning environments due to greater access to technological resources, stable internet connectivity, and conducive study conditions. These findings are consistent with Garcia et al. (2022), who emphasized that socioeconomic status directly impacts students' ability to engage effectively in blended learning, particularly in contexts where digital resources are essential. In variation, parents' highest educational attainment was found to be not significant ($F = 0.652$, critical value = 0.847). This suggests that parental education level does not strongly influence students' academic performance in blended learning. While parental education can shape attitudes toward learning, the blended learning model emphasizes independent study and institutional support, thereby reducing reliance on parental guidance. Agustin and Asuncion (2024) similarly noted that in blended learning contexts, institutional interventions and peer support often compensate for limited parental academic involvement.

Meanwhile, parents' employment status showed a significant effect ($F = 1.857$, critical value = 0.024). This finding suggests that employment status influences students' academic performance, likely due to the financial stability and resources provided by employed parents. However, employment may also limit parental availability for direct supervision, creating a nuanced impact. Co (2025) highlighted that while employment contributes to resource availability, its effect on academic performance is mediated by the balance between financial support and parental involvement. To sum up, the findings reinforce the importance of socioeconomic factors—particularly family income and employment status—in shaping academic performance in blended learning environments. Access to digital resources and financial stability remain critical determinants of success, while parental education appears less influential in this context. The persistence of digital divide issues, such as limited device ownership and poor connectivity, underscores the need for institutional support to ensure equitable learning opportunities for all students (Agustin & Asuncion, 2024).

The study results carry important implications for Arellano University's blended learning program. Support for low-income students should be prioritized through initiatives that reduce the digital divide, such as providing loaner devices, subsidized internet access, and establishing on-campus learning hubs with reliable connectivity. Resource allocation based on employment status is also essential, as financial stability plays a role in student success. The university can strengthen scholarship programs, financial aid, and

flexible payment schemes to support students whose families face employment challenges, while counseling services may help students manage academic stress linked to financial insecurity. Finally, since parental education was not found to significantly influence academic performance, interventions should focus more on institutional support. Programs such as peer mentoring, academic coaching, and faculty-led guidance can compensate for limited parental involvement, ensuring that all students receive adequate academic support regardless of their parents' educational background. By investing in digital infrastructure, offering targeted support programs, and fostering inclusive learning environments, Arellano University can enhance the effectiveness of blended learning and promote equitable academic outcomes.

6. Correlation between the Academic Performance of the Respondents during the First Semester and the Perceptions on Blended Learning

Table 22. The Correlation Between the Academic Performance of the Respondents During the First Semester of SY 2023-2024 and the Perception of Blended Learning

Factors Affecting Perception on Blended Learning	Correlation Coefficient	Interpretation	Sig. (2-tailed)	Decision
Acceptance and Satisfaction	0.172	Positive Very Low Correlation	0.010	Reject Ho (Significant)
Engagement	0.174	Positive Very Low Correlation	0.009	Reject Ho (Significant)
Flexibility	0.171	Positive Very Low Correlation	0.011	Reject Ho (Significant)
Collaboration	0.145	Positive Very Low Correlation	0.031	Reject Ho (Significant)
Technology Skills	0.176	Positive Very Low Correlation	0.009	Reject Ho (Significant)

Table 22 indicates that acceptance and satisfaction had a correlation coefficient of $r = 0.172$, reflecting a very low but positive correlation with academic performance. This suggests that while satisfaction contributes to student outcomes, other factors such as socioeconomic status and institutional support exert stronger influence. Recent studies confirm that student satisfaction enhances motivation, persistence, and overall learning outcomes in blended learning environments (Alqurashi, 2019; Samson et al., 2023). Similarly, engagement demonstrated a very low positive correlation ($r = 0.174$) with academic performance. Students who actively participate in blended learning activities tend to perform slightly better, though the effect remains modest. Engagement is widely recognized as a critical predictor of learning success, but its impact may be moderated by access to resources and instructional quality (Martin & Bolliger, 2018; Villanueva et al., 2024).

Flexibility in blended learning also showed a very low positive correlation ($r = 0.171$). While flexibility allows students to manage their learning schedules, its effect on performance is limited. Research indicates that flexibility benefits self-regulated learners but may challenge those lacking time management

skills (Broadbent & Poon, 2015; Co, 2023). Furthermore, collaboration had a very low positive correlation ($r = 0.145$) with academic performance. This suggests that peer interaction and group work contribute to learning outcomes, but the effect is relatively weak. Studies highlight that collaboration enhances social presence and learning satisfaction, though its direct impact on grades is less pronounced (Garrison & Vaughan, 2008; Villanueva et al., 2024).

Finally, technology skills showed the highest correlation among the factors, though still very low ($r = 0.176$). Students with stronger digital literacy perform slightly better in blended learning, as they can navigate platforms and resources more effectively. Research consistently confirms that digital competence is essential for success in technology-mediated learning environments (Ng, 2012; Samson et al., 2023).

In general, the correlations in Table 21 indicate that perceptions of blended learning—acceptance, engagement, flexibility, collaboration, and technology skills—are all positively related to academic performance, but only at a very low level. This suggests that while perceptions shape learning experiences, structural and socioeconomic factors (income, employment, access to resources) exert stronger influence on actual performance.

Conclusion and Recommendations

This study revealed that the perceptions of the respondents on blended learning were generally good. A majority of the respondents were outstanding in their academic performance. The study revealed that there is significant difference on the perceptions on blended learning in terms of acceptance and satisfaction, engagement, flexibility, technology and profile of the respondents in terms of monthly family income, and parents' highest educational attainment but there none on parents' employment status. Additionally, there is significant difference on perceptions on blended learning on collaboration and profile in terms of monthly family income, parents' highest educational attainment, parents' employment status. There is a significant difference between the academic performance and profile of the respondents in terms of monthly family income and parents' employment status but none on parents' highest educational attainment. There is a positive correlation between the perceptions on blended learning and academic performance of the respondents in all their subjects in the first semester of School Year 2024-2025.

In conclusion, this study underscores the importance of understanding demographic factors, perception, and academic performance in the context of blended learning. By implementing the recommended strategies, educational institutions can optimize the effectiveness of blended learning and promote positive learning outcomes for all students.

In view of the findings of the study, the following recommendations are hereby presented for considerations:

- Educational institutions should prioritize upgrading computer facilities and ensuring sufficient internet connectivity to support blended learning initiatives. This is to enhance and improve the blended learning platform or modality, schools, colleges, and universities should begin looking into all possible ways to upgrade their computer facilities. These include partnering with government agencies, private individuals, private business entities, and the industry, as well as joining local, national, and international ICT organizations. Generally, it will enable teachers and students to make the most of their computer skills training.

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- Administrators should maintain to conduct seminars, workshops, and training sessions for teachers to enhance their competency in blended learning pedagogy and technology integration. The administrators of the school may decide to implement particular plans and activities, such as requiring teachers to attend seminars, workshops, and training sessions pertaining to the implementation of blended learning in terms of content, communication, technology, pedagogy, and assessment; in particular, they may decide to implement cutting-edge pedagogical approaches by utilizing technology in teaching and learning; and analysis of learner attributes and backgrounds, design elements, and learning objectives as elements for efficacy that may assist in guiding the creation of successful learning environments that combine in-person and virtual components.
 - Schools should invest in ICT-based instructional materials and provide ongoing training for instructors to effectively utilize technology in teaching and learning. To empower teachers and students up to date with the demands of the modern world and ready for the challenges of globalization, schools should prioritize the purchase of ICT-based instructional materials and the training of instructors in ICT.
 - Universities and other educational institutions should prioritize blended learning by implementing learning management systems and sufficient internet connectivity for successful technology-based learning, particularly in poor countries.
 - Educators are recommended to integrate intervention strategies in order to address the unique requirements of every student. Teachers can improve their instructional strategies and methods through the utilization of blended learning. Similarly, students can increase their level of engagement and participation in the learning process by benefiting from the blended learning modality that is implemented.
 - In the future, researchers may utilize the findings of this study as a foundation for analogous investigations. This can go a long way in producing skilled learners who can be innovative graduates. Educators should employ intervention strategies and personalized approaches to address the diverse needs of students, leveraging blended learning to enhance engagement and participation.

Action Plan A

An Action Plan for Academic Performance

Enhanced Technical Formation/setting to Improve the Academic performance and Blended Learning of Senior High School Grade 12 Students of Arellano University through the Use of Digital Learning Platforms

Rationale

An enhanced program for blended learning in senior high school presents a compelling solution for various educational challenges and opportunities, offering several benefits for the teachers and learners. Enhanced program is the most applicable way to support, develop, and sustain the learning progress of students specifically in senior high school. This appreciation stems from the ability to cater to different learning styles, accommodating visual, auditory, and kinesthetic learners through a blend of traditional and digital tools. By incorporating multimedia elements, interactive activities, and real-world applications, blended learning fosters engagement and enhances comprehension.

Students find the flexibility of accessing course materials at their own pace and the opportunity for personalized learning empowering, leading to increased motivation and satisfaction with their educational journey. The accessibility of resources in blended learning is underscored by the convenience of accessing materials online, presenting a significant advantage over traditional classroom settings. Through digital platforms, students can readily access a wealth of resources, including lecture notes, readings, videos, and interactive simulations, anytime and anywhere with an internet connection. This accessibility promotes self-directed learning and allows students to revisit content at their convenience, reinforcing understanding and facilitating deeper learning. Moreover, the ability to access updated information and supplementary materials enriches the learning experience, enabling students to explore diverse perspectives and stay alongside of current developments in their field of study.

As a result, blended learning democratizes education, where learners can do at their own pace to do their learning journey effectively. Blended learning allows for personalized instruction tailored to individual student needs and learning styles. By combining traditional classroom instruction with online resources and interactive tools, educators can adapt the curriculum to address students' strengths, weaknesses, and pace of learning. This personalized approach fosters deeper understanding, increases engagement, and ultimately enhances academic performance.

However, we need to consider that, not all learners have the same levels of perception, ability to understand, and capability to adapt in every change or transition, and of course their capability to afford and provide their learning tools and other materials may need to use in their course.

Goals and objectives;

- To be more effective and productive; The institution should focus on sustaining and improving a blended learning program for senior high school which involves several aspects:
- Including more interactive content such as quizzes, participation through recitations, and multimedia resources to engage students actively.
- Tailoring learning paths to individual students' needs and learning styles, allowing them to progress at their own pace.

- Implementing robust feedback mechanisms for both students and teachers to track progress and address areas needing improvement.
- Introducing tools and platforms that facilitate collaboration among students, such as discussion forums, group projects, and peer-to-peer feedback.
- Providing ongoing training and support for teachers to effectively integrate technology into their teaching practices and optimize the blended learning experience.
- Incorporating real-world examples and applications to help students understand the relevance of their learning and prepare them for future endeavors.

By focusing on these areas, you can enhance the quality and effectiveness of the blended learning program for senior high school students of Arellano University-Andres Bonifacio Campus.

Areas of Consideration

Senior high school students often have varied schedules and commitments outside of the classroom. Blended learning provides flexibility by allowing students to access course materials and complete assignments at their own pace and convenience. Whether they need to review a lesson, catch up on missed classwork, or delve deeper into a topic of interest, students can access resources online anytime, anywhere, thereby maximizing learning opportunities and improving academic outcomes. However, not all learners had the same level in terms of comprehension to understand their lesson right. Also, not all learners can afford internet connection to have an access to their learning materials to sustain their studies.

Involving parents in the learning process by providing them with access to resources and progress updates, fostering a collaborative learning environment. However, we need to understand that, not all parents have their time to guide their children. In addition, it also matters to their educational attainment as teaching requires to understand the lesson and the methods in discussion. Regularly assessing the effectiveness of the program through data analysis, surveys, and feedback loops, and making adjustments accordingly.

Today's students are digital natives who are accustomed to using technology in their daily lives. Integrating technology into the learning process through blended learning not only enhances student engagement but also equips them with essential digital literacy skills necessary for success in the 21st century. Interactive multimedia content, online collaboration tools, and virtual simulations enhance understanding and retention of academic concepts, leading to improved performance in senior high school coursework. However, not all learners have their own gadget/s such as laptop or PC. Thus, some of them are still struggling to use different online platforms and tools that is need for online learning. So, the institution needs to pay attention in this issue and so that no student/s may deprive or left behind.

Areas of consideration to strengthen and sustain

Objectives	Activities / Strategies	Persons Involved	Time Frame	Success Indicator
Interactive Content	Interactive presentations on online privacies Role-playing Quizzes	School Heads, Department Heads, Guidance Counselors, Teachers, Parents	For the whole school year. Topic may vary depends on lesson and	Subject for evaluation of every activity.

	Recitation	or Guardians, Learning Facilitators, and learners.	celebration. Considering trends in and outside the country.	
Personalized Learning Paths	Tailoring learning paths to individual students' needs and learning styles, allowing them to progress at their own pace by; assess the learner's strength and weaknesses know their interest know and improve their skills.	School Heads, Department Heads, Guidance Counselors, Teachers, Parents or Guardians, Learning Facilitators, and learners.	For the whole school year. Must evaluate their outcome quarterly.	Subject for evaluation of each activity based on the guide. Must follow the time frame given
Feedback Mechanisms	Implementing robust feedback mechanisms for both students and teachers to track progress and address areas needing improvement. Allow students to give their feedback in every activity, to determine its effectiveness Ask for their suggestion, how they think to improve the lesson or activities Ask them which part comes difficult for them to understand or perform.	School Heads, Department Heads, Guidance Counselors, Teachers, Parents or Guardians, Learning Facilitators, and learners.	For the whole school year. Every activity or lesson is done.	Subject for evaluation of each activity based on the curriculum guide. Must follow the time frame given
Collaborative Tools	Introducing tools and platforms that facilitate collaboration among students, such as discussion forums, group projects, and peer-to-peer feedback.	School Heads, Department Heads, Guidance Counselors, Teachers, Parents or Guardians, Learning Facilitators, and learners.	For the whole school year. Topic may vary depends on lesson and celebration. Considering trends in and outside the	Subject for evaluation of each activity based on the curriculum guide.

	Meetings Programs Games		country.	
Professional Development for Teachers	Providing ongoing training and support for teachers to effectively integrate technology into their teaching practices and optimize the blended learning experience. Employing seminars Training	School Heads, Department Heads, Guidance Counselors, Teachers, Other experts to facilitate learning. Other experts from different field that is related to teaching duties.	Whole school year. Every month depends on technology trends and events transition.	Subject for evaluation to determine its positive outcome.
Integration of Real-World Applications	Incorporating real-world examples and applications to help students understand the relevance of their learning and prepare them for future endeavors. Employ online discussion and allow learners to give their opinion after discussion. Give them enough time to prepare at let them do it or perform during face-to-face classes. Let them evaluate their own performance. Ask them to assess themselves what to change and what to improve. Gives them more knowledge as they experienced. Strengthens their learning capability, independently and more confident.	School Heads, Department Heads, Guidance Counselors, Teachers, Parents or Guardians, Learning Facilitators, and learners.	The whole school year, depends on trends and events.	Every activity is subject for evaluation and assessment of experts/teachers.

Action plan B

An Action Plan to Stabilize Online Classes to Improve the Academic Performance and Blended Learning of Grade 12 Senior High School Students of Arellano University

Researcher's Vision

To be the most effective, efficient, and productive educational learning system standard through integration of blended learning and to have a high-quality result in each core especially in the academic performances of students of Arellano University-Andres Bonifacio Campus Pasig City Metro Manila Philippines.

How will this happen?

The Institution's board of director/s and other members must conduct meeting and discuss the current situation, of their teachers/faculties. float a questionnaire survey to know and understand their perspectives in their current situation.

How they experienced blended learning? The blended learning result to learners, specifically with their academic performances.

Problems they faced recently, how they resolved it?

Problems they are facing currently, hear their opinions and suggestions to address the problem they've mentioned.

The board must conduct a meeting to discuss an action plan/s to address the issue step by step.

Researcher's Assumption

Based on researcher's experiences, observations, investigations, and evaluation, here are the researcher's opinion and suggestions to support and improve the Arellano University Educational Blended Learning modality for Senior High School. In addition, this is a good preparation of the institution to combat unexpected events that maybe reasons to class suspension, such as; natural phenomena disaster, climate change and others. The researcher came up to proposed this action plan to achieve its goals.

Researchers Proposed Project

Facility for One or Two Units/Cclassroomss

Researcher's Goal

- To provide a facility/facilities one or two unit/classroom/s which can serve as teachers respective place to conduct online teaching every online session.
- The institution must provide laptops/PC's, routers for internet connection, and learning platforms and other tools may use in incorporating blended learning.
- The institution must provide a textbook/s sync time frame of discussion for each subject to promote uniformity in general.

- Teachers should be monitored by checker if they're teaching on time with their updated lesson plan. This will ensure the positive outcome of blended learning for teachers and learners.

Action Steps	Person/s Responsible:	Timeline: Start/End	Needed Resources	Evaluation
Building facility	Engineers and construction workers	July 30, 2025 to January 30, 2026	Blueprint Construction materials Electrical materials	Visit, check and inspection for observation and improvement
Meeting/s for some changes or additional according to plan their plan/s.	Director Human Resources Dept. Engineers and construction workers.	Every end of the month or as needed	Projector Board Laptop Paper and pen.	Check, understand and discuss what to improve in each performance and results.
Install electric power, cctv's.	Computer Engineers, Electrical Engineers and IT department. Other staffs.	February 01,2026 to April 01, 2026	Electrical materials	Check and inspection the power supply to ensure that it is in good condition.
Setting up the facility. Provide laptops/computers and tables, chairs, furniture/s.	Computer Engineers, Electrical Engineers and other staffs.	April 01, 2026 May 01, 2026	suppliers	Check to make sure that it is good and functional.
Install learning platform/s, tools and other	Computer Engineers, IT department. And Other	May 01, 2026 June 01, 2026	Internet connection, laptop/s and	To make sure that each tool is dependable and

things needed for the operation.	staffs.		computers	functions well.
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The proposed project is deemed feasible and is scheduled for completion within a one-year period. Implementation will commence on July 30, 2024, and is expected to conclude on July 1, 2025. This timeline allows sufficient opportunity for planning, resource allocation, construction or development, and evaluation phases to be carried out systematically.

Upon completion, the facility will be ready for institutional use beginning in the academic year 2025–2026 and in subsequent school years. This ensures that the project will not only meet immediate needs but also provide long-term benefits to the institution and its stakeholders.

The structured timeline underscores the project’s attainability and reflects careful consideration of both logistical and academic requirements. By aligning the completion date with the start of the school year, the institution can maximize the utility of the facility and integrate it seamlessly into its operations.

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