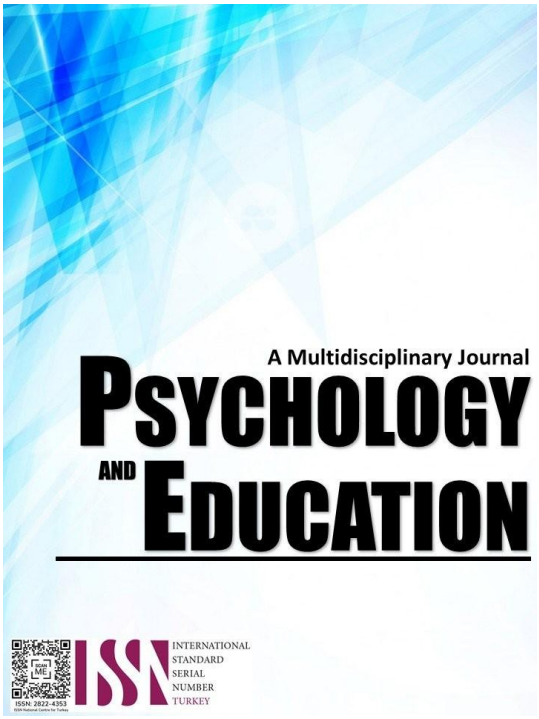
CHALLENGES AND OPPORTUNITIES IN THE INTEGRATION OF TECHNOLOGY WITHIN ALTERNATIVE LEARNING SYSTEMS (ALS) PROGRAMS



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Research Article

Challenges and Opportunities in the Integration of Technology Within Alternative Learning Systems (ALS) Programs

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Abstract

This study explored the challenges and opportunities in integrating Technology within Alternative Learning System (ALS) Programs in Malaybalay City District IX, Division of Malaybalay City, School Year 2024-2025. A researcher-made survey questionnaire was utilized to gather the data needed in this study. The respondents of this study were the ALS teachers in Malaybalay City District IX, Division of Malaybalay City. The data were analyzed using the following statistical tools: mean, standard deviation, frequency count, percentage, and Pearson r Product Moment Correlation Coefficient. This study yielded the following results: There was a Large Extent of challenges and opportunities in the integration technology within Alternative Learning System (ALS) Programs in terms of Access to Technology, Curricular Integration, Digital Literacy Skills, Perceived Utility of Technology, Policy, and Governance, Socioeconomic Factors, Support and Training, and Technological Infrastructure in Malaybalay City District IX, Division of Malaybalay City, School Year 2024-2025. Most ALS teachers achieved an Outstanding rating, indicating that their competence in teaching is highly developed. Among the variables, Socioeconomic Factors, Support and Training, Perceived Utility of Technology, and Digital Literacy Skills showed a significant relationship with ALS teachers' performance. In particular, the overall correlation suggests that these challenges and opportunities significantly impact teacher performance in ALS programs. On the other hand, Access to Technology and Technological Infrastructure were not significantly related to ALS teachers' performance.

Keywords: *challenges, opportunities, integration, technology, Alternative Learning System (ALS) Programs*

Introduction

Incorporating Technology in Alternative Learning System (ALS) Programs signifies a pivotal moment in improving access to excellent education for underserved students. Considering technological progress and the widening digital divide, it is essential to examine the challenges and potential of incorporating Technology into ALS Programs in Malaybalay City District IX, Division of Malaybalay City, for the School Year 2024-2025.

George Siemens proposed 2005 that connectivity highlights the significance of networks and digital resources in education, emphasizing technology's capacity to address educational disparities and offer varied learning opportunities for ALS participants in rural or underprivileged regions.

Incorporating Technology in Alternative Learning System (ALS) Programs offers a significant potential to meet the varied needs of learners encountering obstacles to conventional education. The ALS Programs serve individuals deprived of formal education for various reasons, allowing them to gain knowledge and skills. Integrating technology into these programs may improve the accessibility, flexibility, and efficacy of learning experiences for ALS users. This integration corresponds with the overarching trend of digital transformation in education, wherein technology is a potent instrument to democratize learning and empower individuals from all backgrounds.

Nonetheless, despite the potential of technology in education, specific problems impede the full integration of digital tools into ALS Programs. The digital divide is a significant barrier, which denotes the disparity between individuals with access to and competence in utilizing technology and those without. In areas where ALS Programs function, differences in internet access, device availability, and technological proficiency can obstruct the equitable execution of technology-enhanced learning initiatives.

Moreover, apprehensions about the adaptation of ALS educators and the durability of technical infrastructure in ALS centers create considerable obstacles to efficient technology integration. Addressing these challenges necessitates strategic planning, capacity-building initiatives, and customized support systems to guarantee that technology is an enabler rather than an impediment to learning in ALS Programs.

Notwithstanding these limitations, incorporating Technology in ALS Programs presents numerous opportunities to revolutionize disenfranchised learners' educational environment. Utilizing digital platforms, multimedia resources, and online collaboration tools enables instructors to customize learning experiences, accommodate varied learning styles, and cultivate a more participatory and engaging educational environment for ALS participants.

Furthermore, technology can enhance data-driven decision-making, track student progress, and enable the application of adaptive learning methodologies in ALS Programs, ultimately resulting in improved learning outcomes and higher retention rates among learners. Capitalizing on this potential necessitates a strategic and comprehensive strategy that considers ALS participants' distinct requirements and settings while also addressing the technical, pedagogical, and socioeconomic issues that affect the effective

incorporation of Technology within ALS Programs.

In this situation, where conventional educational models may struggle to reach all learners successfully, integrating Technology in ALS Programs can provide a transformative method for delivering instruction. Albert Bandura's Social Learning Theory (1977) posits that technology integration can facilitate collaborative learning environments, enabling ALS students to participate in peer relationships, obtain mentorship, and access extensive educational resources outside physical limitations. Utilizing digital technologies and online platforms, educators in Malaybalay City District IX may establish a dynamic learning ecosystem that fosters social engagement, knowledge sharing, and community-building among ALS learners, improving their learning experiences and outcomes.

Moreover, utilizing the concepts of Constructivism proposed by Piaget and Vygotsky, incorporating Technology in ALS Programs can accommodate diverse learning styles and preferences, promoting active involvement and knowledge production among learners. By integrating interactive technologies and multimedia resources designed for the varied needs of ALS learners, educators can establish personalized learning environments that conform to the principles of Constructivism. This study aims to elucidate the challenges and opportunities of integrating Technology within ALS Programs in Malaybalay City District IX for the academic year 2024-2025, focusing on how technological advancements can enhance inclusive and effective educational practices in non-traditional learning environments.

The researcher found it very significant to conduct this study to explore the challenges and opportunities in integrating Technology within Alternative Learning System (ALS) Programs in Malaybalay City District IX, Division of Malaybalay City, School Year 2024-2025.

Research Questions

This study explored the challenges and opportunities in integrating Technology within Alternative Learning System (ALS) Programs in Malaybalay City District IX, Division of Malaybalay City, School Year 2024-2025. Specifically, this study answered the following questions:

1. What are the challenges and opportunities in integrating Technology within Alternative Learning System (ALS) Programs regarding Access to Technology, Curricular Integration, Digital Literacy Skills, Perceived Utility of Technology, Policy and Governance, Socioeconomic Factors, Support and Training, and Technological Infrastructure?
2. What is the Alternative Learning System (ALS) teachers' performance?
3. Is there a significant relationship between the extent of challenges and opportunities in integrating Technology within Alternative Learning System (ALS) Programs and ALS teachers' performance?

Methodology

Research Design

This study was performed using the descriptive-correlational research design. It delved into the challenges and opportunities in integrating Technology within Alternative Learning System (ALS) Programs in Malaybalay City District IX, Division of Malaybalay City, School Year 2024-2025.

Data on the extent of challenges and opportunities in integrating Technology within Alternative Learning System (ALS) Programs were gathered using the researcher-made questionnaire. Data on the Alternative Learning System (ALS) teachers' performance were taken from their IPCRF 2024.

Respondents

Table 1 presents the distribution of respondents by district.

Table 1. *Distribution of Respondents by District*

District	*Total Population*	*Sample Size*
District I	6	6
District II	6	6
District III	6	6
District IV	6	6
District V	6	6
District VI	6	6
District VII	6	6
District VIII	6	6
District IX	7	7
District X	8	8
Total	63	63

The respondents in this study included all ALS teachers in Malaybalay City District IX, functioning under the Division of Malaybalay City during the school year 2024-2025. This selection guarantees a thorough representation of educators actively engaged in the

Alternative Learning System within a designated administrative district and academic period. This study concentrated on ALS teachers to collect insights, perspectives, and experiences from individuals involved in delivering non-traditional education to learners in the specified area and timeframe, thus providing a comprehensive and contextually pertinent understanding of the challenges and opportunities associated with technology integration in the ALS programs of Malaybalay City District IX for the designated school year.

Instrument

The researcher crafted a researcher-made instrument for this study. It was a survey questionnaire that was made up of four parts.

Part I was about the extent of challenges and opportunities in integrating technology. Columns for the choices were based on the Five-Point Likert Scale. The respondent checked the column for his chosen answer.

Part II was on the performance of the Alternative Learning System (ALS) teachers.

Procedure

This study was conducted by the institution's standards at Valencia College (Buk.) Incorporated. Initially, the researcher sought the approval and endorsement letter of the Dean of the Graduate School. Subsequently, it was submitted to the Superintendent of Schools for the Division of Malaybalay City. Upon obtaining the necessary approvals, the researcher approached the Public Schools District Supervisor of Malaybalay City District IX for her permission. Following this, the school heads of the chosen schools were approached for permission to conduct a study on their respective campuses. Finally, the questionnaires were distributed to the selected respondents.

Data Analysis

The following statistical tools were used in this study:

Mean and standard deviation were applied to determine the extent of challenges and opportunities in integrating Technology within Alternative Learning System (ALS) Programs.

Percentage and frequency counts were used to determine teachers' performance in the Alternative Learning System (ALS).

Pearson r Product-Moment Correlation Coefficient or Pearson r was used to check the significant relationship between the extent of challenges and opportunities in integrating Technology within Alternative Learning System (ALS) Programs and ALS teachers' performance.

Ethical Considerations

To maintain the utmost ethical standards, the researcher emphasized the confidentiality and privacy of all participants during the study. Every participant received an informed consent form outlining the study's goal and procedures and extensive information regarding the environmental background of the research. This transparency facilitated participants' comprehension of their involvement, the associated risks and benefits, and their rights as respondents.

Acknowledging the possibility of bias in self-reported data, the researcher employed targeted measures to mitigate any impact that might distort responses. These techniques may have encompassed impartial question formulation, reassuring respondents that there were no correct or incorrect answers, and fostering a conducive atmosphere that promoted sincere and forthright feedback.

Participants were granted the autonomy to refuse to answer any question during the study without any adverse repercussions. This option honored their autonomy and comfort levels, reaffirming the voluntary nature of their participation and further promoting ethical research techniques.

Results and Discussion

This section offers the presentation of findings, analysis of the problems posed, and interpretation in the light of descriptive research. This study explored the challenges and opportunities in integrating technology within Alternative Learning System (ALS) Programs in Malaybalay City District IX, Division of Malaybalay City, School Year 2024-2025. Specifically, this study determined the extent of challenges and opportunities in the integration of technology within Alternative Learning System (ALS) Programs in terms of Access to Technology, Curricular Integration, Digital Literacy Skills, Perceived Utility of Technology, Policy and Governance, Socioeconomic Factors, Support and Training, and Technological Infrastructure; identified the Alternative Learning System (ALS) teachers' performance; and found out the significant relationship between the extent of challenges and opportunities in the integration of technology within Alternative Learning System (ALS) Programs and ALS teachers' performance.

The extent of challenges and opportunities in the integration of technology within Alternative Learning System (ALS) Programs in terms of Access to Technology, Curricular Integration, Digital Literacy Skills, Perceived Utility of Technology, Policy and Governance, Socioeconomic Factors, Support and Training, and Technological Infrastructure are presented and discussed in the succeeding sections.

Table 2 examines and analyzes the extent of challenges and opportunities in integrating technology within Alternative Learning System

(ALS) Programs regarding Access to Technology.

Table 2. *Extent of Challenges and Opportunities in the Integration of Technology within Alternative Learning System (ALS) Programs in terms of Access to Technology*

Indicator	*Mean*	*SD*	*Interpretation*
Survey on the affordability and accessibility of technology devices for ALS participants in the target area.	4.32	0.624	Very Large Extent
Assessment of the availability of computers and internet connectivity in ALS centers in Malaybalay City District IX.	4.22	0.585	Very Large Extent
Investigation into providing mobile devices or tablets for ALS learners to access digital learning resources.	4.20	0.777	Very Large Extent
Evaluation of the adequacy of technical support and training provided to ALS learners for utilizing technology effectively.	3.83	0.924	Large Extent
Analysis of ALS students' barriers to accessing and utilizing technology for their learning needs.	3.75	0.932	Large Extent
Overall	4.06	0.570	Large Extent

Legend: 4.20–5.00 – Very Large Extent | 3.40–4.19 – Large Extent | 2.60–3.39 – Moderate Extent | 1.80–2.59 – Small Extent | 1.00–1.79 – Very Small Extent

The findings presented in Table 2 highlight the extent of challenges and opportunities in integrating technology within Alternative Learning System (ALS) programs regarding access to technology. Among the indicators, the survey on the affordability and accessibility of technology devices for ALS participants in the target area recorded the highest mean of 4.32 and a Standard Deviation of 0.624, indicating that challenges in this aspect are observed to a Very Large Extent.

Similarly, the assessment of the availability of computers and internet connectivity in ALS centers in Malaybalay City District IX with a Mean of 4.22 and Standard Deviation of 0.585, and the investigation into the provision of mobile devices or tablets for ALS learners with a Mean of 4.20 and a Standard Deviation of 0.777 also showed a considerable extent of challenges. According to a study by Martin and Grudziecki (2015), rural and underserved communities face significant barriers to technological infrastructure, which impedes their ability to engage with digital learning platforms. These gaps in access to technology prevent equitable participation in ALS programs, where technology could otherwise enhance learning experiences.

On the other hand, the indicator with the lowest mean pertains to the analysis of the barriers faced by ALS students in accessing and utilizing technology for their learning needs, with a Mean of 3.75 and a Standard Deviation of 0.932, signifying that these challenges are observed to a Large Extent. Additionally, evaluating the adequacy of technical support and training provided to ALS learners for utilizing technology effectively, with a Mean of 3.83 and a Standard Deviation of 0.924, also falls under the category of considerable extent.

The overall mean score of 4.06 and a Standard Deviation of 0.570 suggest that, on average, the challenges in access to technology within ALS programs are observed to a large extent. A study by Karsenti et al. (2017) found that while some learners can access smartphones or computers, they are often not proficient in using these devices for educational purposes. ALS learners may struggle to engage fully and benefit from technology-enabled learning platforms without adequate digital literacy.

These results draw attention to important educational consequences for the Philippine system. Especially in underdeveloped places, the significant difficulties in the cost and availability of technology reflect structural problems in resource allocation and infrastructure development (World Bank, 2023). As Alvarez (2020) underlined, limited ICT resources impede effective learning delivery in blended education systems—addressing these gaps calls for investments in digital tools and internet connectivity.

The relatively low difficulty in obstacles to technology use points to chances for focused training initiatives to raise digital literacy among ALS students (UNESCO, 2025). These results highlight the importance of thorough plans to properly include technology in ALS programs, guaranteeing fair access and support for underprivileged students.

To ensure equitable access and support, ALS programs must address socioeconomic disparities by supplying suitable devices, internet connectivity, and community-based learning centers, alongside continuous teacher training to promote blended learning methodologies (DepEd RO XI, 2024; ICT4ALS, 2025). These results demonstrate that, via planning and resource distribution, technology may be effectively utilized in ALS to close educational disparities and promote inclusive learning environments for disadvantaged students.

Table 3 details and explores the extent of challenges and opportunities in integrating technology within Alternative Learning System (ALS) Programs in terms of Digital Literacy Skills.

The findings in Table 3 highlight the extent of challenges and opportunities in integrating technology within Alternative Learning System (ALS) programs in terms of digital literacy skills. Among the indicators, the assessment of students' ability to critically evaluate online information and resources for learning purposes recorded the highest mean of 4.15 and a Standard Deviation of 0.659, indicating that challenges in this aspect are observed to a large extent. Similarly, the analysis of ALS participants' understanding of internet safety, privacy, and ethical use of technology with a Mean of 4.00 and a Standard Deviation of 0.823 and the identification of the need for training or workshops to enhance ALS students' digital literacy competencies with a Mean of 3.95 and a Standard Deviation of 0.746 also fall under the category of considerable extent.

Table 3. *Extent of Challenges and Opportunities in the Integration of Technology within Alternative Learning System (ALS) Programs in terms of Digital Literacy Skills*

Indicator	*Mean*	*SD*	*Interpretation*
Assessment of students' ability to critically evaluate online information and resources for learning purposes.	4.15	0.659	Large Extent
Analysis of ALS participants' understanding of internet safety, privacy, and ethical use of technology.	4.00	0.823	Large Extent
Identify the need for training or workshops to enhance ALS students' digital literacy competencies for effective technology integration.	3.95	0.746	Large Extent
Evaluation of ALS learners' proficiency in basic computer applications and navigating digital platforms.	3.78	0.783	Large Extent
Observation of learners' skills in online communication, collaboration, and information sharing within digital environments.	3.18	0.770	Moderate Extent
Overall	3.81	0.492	Large Extent

Legend: 4.20–5.00 – Very Large Extent | 3.40–4.19 – Large Extent | 2.60–3.39 – Moderate Extent | 1.80–2.59 – Small Extent | 1.00–1.79 – Very Small Extent

Research shows that many ALS learners come from low-income or rural areas where access to devices like computers, tablets, and smartphones is limited, and internet connectivity is unreliable. According to a study by Gonzales and Trinidad (2018), digital divide issues persist in ALS programs, especially in remote regions, restricting learners' opportunities to develop essential digital skills.

On the other hand, the indicator with the lowest mean pertains to the observation of learners' skills in online communication, collaboration, and information sharing within digital environments, with a Mean of 3.18 and a Standard Deviation of 0.770, signifying that challenges in this area are observed only to a moderate extent. Additionally, the evaluation of ALS learners' proficiency in using basic computer applications and navigating digital platforms with a Mean of 3.78, SD = 0.783) suggests that difficulties in this aspect are still present to a Large Extent.

The overall mean score of 3.81 and a Standard Deviation of 0.492 indicate that, on average, challenges related to digital literacy skills in ALS programs are observed to a large extent. San Juan and Castro (2020) found that the limited technological proficiency of educators often compromises the effectiveness of digital literacy instruction in ALS programs. Teachers must first be digitally literate to guide learners in using digital tools and platforms confidently. Socioeconomic factors also influence the development of digital literacy in ALS learners.

Particularly in the ALS framework, these results have important ramifications for the Philippine educational system. Alvarez (2020) underlined the need for faculty development and learner-centered methods in blended learning systems, reflecting larger concerns with properly integrating technology into learning processes. The high hurdles in the critical evaluation of online materials reflect these aspects. Furthermore, UNESCO (2025) emphasizes focused training courses and seminars that help underprivileged students close gaps in digital literacy, enhancing their capacity to use technology. Dealing with these issues calls for coordinated efforts to offer customized training, improve access to digital resources, and encourage ALS students' teamwork abilities.

UNESCO (2025) emphasizes the need for targeted training programs and seminars to augment digital literacy among disadvantaged pupils, enhancing their capacity to employ technology proficiently. Resolving these difficulties necessitates concerted initiatives to provide personalized training for ALS learners and instructors, expand equitable access to digital resources, and cultivate collaborative abilities among students to optimize the advantages of technology-enhanced learning. Comprehensive solutions are vital to guarantee that technology integration in ALS enhances access and fosters meaningful and fair learning results for all participants.

Table 4 outlines and interprets the extent of challenges and opportunities in integrating technology within Alternative Learning System (ALS) Programs in terms of Perceived Utility of Technology.

The findings in Table 4 highlight the extent of challenges and opportunities in integrating technology within Alternative Learning System (ALS) programs in terms of the perceived utility of technology. Among the indicators, assessing stakeholders' attitudes towards integrating technology and its impact on teaching and learning experiences within ALS recorded the highest mean of 4.37 and a Standard Deviation of 0.712, indicating that this aspect is observed to a considerable extent. Meanwhile, collecting feedback from ALS students on how technology tools have influenced their engagement and motivation in learning with a Mean of 4.13 and a Standard Deviation of 1.033 and evaluating the alignment between the perceived utility of technology and the actual outcomes achieved within the ALS programs in Malaybalay City District IX with a Mean of 4.12 and a Standard Deviation of 0.993 both fall under the category of Large Extent.

On the other hand, the indicator with the lowest mean pertains to interviewing ALS educators to understand their perspectives on the benefits and limitations of technology use in the program, with a Mean of 3.33 and a Standard Deviation of 0.681, suggesting that challenges in this area are observed only to a moderate extent. Additionally, surveying ALS instructors and learners to gauge their perceived effectiveness of technology in enhancing learning outcomes, with a Mean of 3.78 and a Standard Deviation of 0.846, indicates that challenges exist to a Large Extent.

Table 4. *Extent of Challenges and Opportunities in the Integration of Technology within Alternative Learning System (ALS) Programs in terms of Perceived Utility of Technology*

Indicator	*Mean*	*SD*	*Interpretation*
Assessing stakeholders' attitudes towards integrating technology and its impact on teaching and learning experiences within ALS.	4.37	0.712	Very Large Extent
Collecting feedback from ALS students on how technology tools have influenced their engagement and motivation in learning.	4.13	1.033	Large Extent
Evaluating the alignment between the perceived utility of technology and the actual outcomes achieved within the ALS Programs in Malaybalay City District IX.	4.12	0.993	Large Extent
Surveying ALS instructors and learners to gauge their perceived effectiveness of technology in enhancing learning outcomes.	3.78	0.846	Large Extent
Interviewing ALS educators to understand their perspectives on the benefits and limitations of technology use in the program.	3.33	0.681	Moderate Extent
Overall	3.95	0.607	Large Extent

Legend: 4.20–5.00 – Very Large Extent | 3.40–4.19 – Large Extent | 2.60–3.39 – Moderate Extent | 1.80–2.59 – Small Extent | 1.00–1.79 – Very Small Extent

The overall mean score of 3.95 and a Standard Deviation of 0.607 suggests that, on average, the perceived utility of technology in ALS programs is recognized to a Large Extent.

Particularly in the ALS environment, these results have important ramifications for the Philippine educational system. As Alvarez (2020) underlined the need for faculty development and learner-centered methods in blended learning systems, the difficulties in critically evaluating online materials reflect more general issues with properly integrating technology into learning processes. Furthermore, UNESCO (2025) emphasizes focused training courses and seminars that help underprivileged students close gaps in digital literacy, enhancing their capacity to negotiate and use technology. Dealing with these issues calls for coordinated efforts to offer customized instruction, improve access to digital resources, and encourage ALS students' teamwork skills.

Table 5 illustrates and deliberates the extent of challenges and opportunities in integrating technology within Alternative Learning System (ALS) Programs regarding Socioeconomic Factors.

Table 5. *Extent of Challenges and Opportunities in the Integration of Technology within Alternative Learning System (ALS) Programs in terms of Socioeconomic Factors*

Indicator	*Mean*	*SD*	*Interpretation*
Assessment of the availability of personal technology devices (e.g., computers, tablets) at home for ALS learners.	4.07	0.899	Large Extent
Investigation into the affordability of internet connectivity and access to digital resources for students from diverse socioeconomic backgrounds.	4.07	0.880	Large Extent
Examine the relationship between socioeconomic status and the digital skills gap among ALS learners in the Malaybalay City District IX.	4.00	0.844	Large Extent
Exploration of the influence of parents' educational background and occupation on students' engagement with technology in the ALS Programs.	3.95	0.852	Large Extent
Analysis of the impact of household income levels on the ability of ALS participants to access and utilize technology for learning.	3.93	0.918	Large Extent
Overall	4.00	0.729	Large Extent

Legend: 4.20–5.00 – Very Large Extent | 3.40–4.19 – Large Extent | 2.60–3.39 – Moderate Extent | 1.80–2.59 – Small Extent | 1.00–1.79 – Very Small Extent

The findings in Table 5 highlight the extent of challenges and opportunities in integrating technology within Alternative Learning System (ALS) programs regarding socioeconomic factors. Among the indicators, both the assessment of the availability of personal technology devices at home for ALS learners with a Mean of 4.07 and a Standard Deviation of 0.899 and the investigation into the affordability of internet connectivity and access to digital resources for students from diverse socioeconomic backgrounds with a Mean of 4.07 and a Standard Deviation of 0.880 recorded the highest mean, indicating that these challenges are observed to a Large Extent. Similarly, examining the relationship between socioeconomic status and the digital skills gap among ALS learners in Malaybalay City District IX, with a Mean of 4.00 and a Standard Deviation of 0.844, also falls under the category of considerable extent.

On the other hand, the indicator with the lowest mean pertains to the analysis of the impact of household income levels on the ability of ALS participants to access and utilize technology for learning, with a Mean of 3.93 and a Standard Deviation of 0.918, suggesting that challenges in this aspect are slightly less prominent but still observed to a large extent. Additionally, exploring the influence of

parents' educational background and occupation on students' engagement with technology in the ALS programs, with a Mean of 3.95 and a Standard Deviation of 0.852, also falls within the large extent category.

The overall mean score of 4.00 and a Standard Deviation of 0.729 indicate that, on average, socioeconomic factors significantly affect ALS learners' access to and utilization of technology.

This corresponds with extensive literature indicating that students from lower socioeconomic backgrounds encounter significant obstacles in obtaining digital tools, reliable internet, and conducive learning environments, which are essential for meaningful participation in technology-enhanced education (Joshi, Khatiwada & Pokhrel, 2023; Cochrane, 2020). Financial limitations hinder students' ability to acquire gadgets and internet access, widening the digital divide and intensifying pre-existing educational disparities (Afzal et al., 2023). In the context of ALS, learners from marginalized and disadvantaged groups may encounter barriers that impede their ability to properly utilize digital learning resources and cultivate important digital literacy abilities (DepEd RO XI, 2024; Abenes & Caballes, 2020).

This highlights the necessity for focused interventions that tackle financial and infrastructural obstacles, including the provision of subsidized or complimentary access to technology, the expansion of community learning centers with digital resources, and the implementation of training programs to improve learners' digital skills (UNESCO, 2025; PIDS, 2024).

These results have important ramifications for the Philippine system of education. Systemic inequalities that prevent underprivileged students from thoroughly enjoying technology-integrated education reflect the difficulties in affordability and access (World Bank, 2023). As UNESCO (2025) advised, filling these gaps calls for focused measures like subsidized devices and internet charges for low-income students. Alvarez (2020) further underlines the need to give ALS teachers tools to address digital gaps using customized training courses and community alliances.

Table 6 discusses the extent of challenges and opportunities in integrating technology within Alternative Learning System (ALS) Programs regarding Support and Training.

Table 6. *Extent of Challenges and Opportunities in the Integration of Technology within Alternative Learning System (ALS) Programs in terms of Support and Training*

Indicator	*Mean*	*SD*	*Interpretation*
Evaluation of the training programs provided to ALS educators to enhance their digital literacy skills and proficiency in incorporating technology.	3.97	0.823	Large Extent
Investigation into the impact of comprehensive support and training initiatives on the confidence and competence of ALS instructors and learners in leveraging technology for educational purposes.	3.97	0.802	Large Extent
Assessment of the availability of technical support mechanisms for teachers and students using technology in ALS classrooms.	3.95	0.811	Large Extent
Surveying ALS participants to gather feedback on the effectiveness of training sessions to improve their technology utilization in the learning process.	3.95	0.790	Large Extent
Analysis of the ongoing professional development opportunities offered to ALS staff to support technology integration in teaching practices.	3.93	0.899	Large Extent
Overall	3.95	0.722	Large Extent

Legend: 4.20–5.00 – Very Large Extent | 3.40–4.19 – Large Extent | 2.60–3.39 – Moderate Extent | 1.80–2.59 – Small Extent | 1.00–1.79 – Very Small Extent

The findings in Table 6 reveal the extent of challenges and opportunities in integrating technology within Alternative Learning System (ALS) programs regarding support and training. Among the indicators, both the evaluation of the training programs provided to ALS educators to enhance their digital literacy skills and proficiency in incorporating technology with a Mean of 3.97 and a Standard Deviation of 0.823 and the investigation into the impact of comprehensive support and training initiatives on the confidence and competence of ALS instructors and learners in leveraging technology with a Mean of 3.97 and a Standard Deviation of 0.802 recorded the highest mean, indicating that challenges in these aspects are observed to a large extent.

Several studies highlight that inadequate technical support hinders technology adoption in ALS. Villanueva and Manuel (2016) found that ALS programs in rural areas struggle with insufficient IT infrastructure, limited access to devices, and unreliable internet connectivity. This lack of technical support impedes the initial adoption of technology and affects the sustainability of digital learning interventions.

Similarly, the assessment of the availability of technical support mechanisms for teachers and students using technology in ALS classrooms with a Mean of 3.95 and a Standard Deviation of 0.811 and the surveying of ALS participants to gather feedback on the effectiveness of training sessions aimed at improving technology utilization in the learning process with a Mean of 3.95 and a Standard Deviation of 0.790 also fall under the category of considerable extent. Bonifacio (2017) states that many ALS initiatives suffer from

unclear policies and a lack of government funding, resulting in a fragmented approach to technology integration. Without a cohesive policy framework and institutional support, local ALS centers find it difficult to provide the necessary tools and resources to both facilitators and learners.

On the other hand, the indicator with the lowest mean pertains to the analysis of the ongoing professional development opportunities offered to ALS staff to support the integration of technology in teaching practices, with a Mean of 3.93 and a Standard Deviation of 0.899, suggesting that challenges in this area are slightly less prominent but still observed to a large extent. Batalla and Limjap (2020) noted that many ALS learners, especially those from low-income families, face device access and digital literacy challenges.

The overall mean score of 3.95 and a Standard Deviation of 0.722 indicate that, on average, support and training for technology integration in ALS programs face considerable challenges. Comprehensive training for ALS educators is vital for effectively using technology in teaching. Ochoa and Mangubat (2018) emphasized that teachers in ALS programs often have limited exposure to digital tools, which affects their ability to integrate technology into their teaching practices.

These results emphasize the need for systematic improvements in the Philippine educational system to improve teacher preparation and technical support in ALS projects. Alvarez (2020) notes that effective technology integration in blended learning environments is hampered by insufficient technical assistance and poor teacher training. Likewise, UNESCO (2025) supports ongoing professional development initiatives to provide digital skills to ALS teachers. Closing these gaps using focused seminars, mentoring initiatives, and readily available technical support will empower educators and improve the efficiency of technology integration in ALS projects.

Table 7 examines and analyzes the extent of challenges and opportunities in integrating technology within Alternative Learning System (ALS) Programs in terms of Technological Infrastructure.

Table 7. *Extent of Challenges and Opportunities in the Integration of Technology within Alternative Learning System (ALS) Programs in terms of Technological Infrastructure*

Indicator	*Mean*	*SD*	*Interpretation*
Assessment of the training programs provided to ALS educators to enhance their digital literacy skills and teaching strategies.	4.27	0.516	Very Large Extent
Analysis of the impact of comprehensive support and training initiatives on the successful integration of technology within the ALS Programs in Malaybalay City District IX.	4.08	0.720	Large Extent
Evaluation of the availability and adequacy of technical support for ALS instructors and learners in utilizing technology effectively.	4.02	0.596	Large Extent
Surveying ALS students on the quality and accessibility of training sessions aimed at improving their technology proficiency.	3.98	0.651	Large Extent
"Examining the provision of ongoing support mechanisms for troubleshooting technological issues encountered during ALS activities."	3.83	0.740	Large Extent
Overall	4.04	0.452	Large Extent

Legend: 4.20–5.00 – Very Large Extent | 3.40–4.19 – Large Extent | 2.60–3.39 – Moderate Extent | 1.80–2.59 – Small Extent | 1.00–1.79 – Very Small Extent

The findings in Table 7 show the extent of challenges and opportunities in integrating technology within Alternative Learning System (ALS) programs regarding technological infrastructure. Among the indicators, the assessment of the training programs provided to ALS educators to enhance their digital literacy skills and teaching strategies recorded the highest mean of 4.27 and a Standard Deviation of 0.516, indicating that challenges in this area are observed to a considerable extent. This suggests that while training programs are available, gaps may still need to be addressed to ensure educators' complete competence in digital instruction.

According to a study by James and Parker (2016), access to digital devices such as tablets, smartphones, or laptops remains uneven across regions, limiting the potential of technology-enhanced learning in ALS programs. Learners in remote areas are particularly disadvantaged, as they often lack basic infrastructure, such as electricity, making it difficult to implement digital learning solutions.

On the other hand, the indicator with the lowest mean pertains to examining the provision of ongoing support mechanisms for troubleshooting technological issues encountered during ALS activities, with a Mean of 3.83 and a Standard Deviation of 0.740, which falls under the category of considerable extent. Other indicators, such as the analysis of the impact of comprehensive support and training initiatives on the successful integration of technology within the ALS programs with a Mean of 4.08 and a Standard Deviation of 0.720, the evaluation of the availability and adequacy of technical support for ALS instructors and learners with a Mean of 4.02 and a Standard Deviation of 0.596, and surveying ALS students on the quality and accessibility of training sessions aimed at improving their technology proficiency with a Mean of 3.98, and a Standard Deviation of 0.651, all indicate that technological infrastructure challenges are present to a large extent. Research by Khan et al. (2018) indicates that poor internet infrastructure in rural areas, where many ALS learners reside, significantly limits the effectiveness of digital learning platforms. Without reliable internet access, learners struggle to participate in online classes, access digital learning materials, or engage in collaborative learning activities.

The overall mean score of 4.04 and a Standard Deviation of 0.452 suggest that while efforts have been made to improve technological infrastructure in ALS programs, notable challenges still hinder its full integration. The availability of technical support and the maintenance of digital infrastructure are crucial for the long-term success of technology integration. However, many ALS centers lack the resources to maintain digital devices or provide timely technical support. A study by Li and Choi (2020) revealed that technical issues, such as device malfunctions or software problems, often go unresolved in ALS programs due to limited budgets and a shortage of trained IT personnel.

These results highlight the need for systematic changes in the Philippine educational system to improve ALS's technological integration. Alvarez (2020) notes that obstacles to efficient blended learning deployment include insufficient technological assistance and minimal faculty training.

The Alternative Learning System (ALS) of the teachers' performance is presented and elaborated below.

Table 8 details and explores the Alternative Learning System (ALS) teachers' performance.

Table 8. *Alternative Learning System (ALS) Teachers' Performance*

Rating	*Range*	*f*	*%*	*Adjectival Rating*
5	4.500 – 5.000	49	81.7	Outstanding
4	3.500 – 4.499	11	18.3	Very Satisfactory
3	2.500 – 3.499	0	0	Satisfactory
2	1.500 – 2.499	0	0	Unsatisfactory
1	Below 1.499	0	0	Poor
	Total	60	100.0	

The results displayed in Table 8 indicate a highly favorable evaluation of the performance of Alternative Learning System (ALS) educators. Specifically, 81.7% of the respondents, or 49 teachers, attained an Outstanding grade, signifying that the majority exhibited remarkable proficiency in executing their teaching duties and obligations. Simultaneously, 18.3% or 11 teachers received a Very Satisfactory rating, indicating robust performance with several aspects available for improvement. Significantly, no educator received ratings of Satisfactory, Unsatisfactory, or Poor, indicating that all participants exceeded the minimally acceptable norm.

The achievement of an Outstanding rating by nearly 80% of ALS teachers indicates mastery and efficacy in their instructional responsibilities. This corresponds with recent studies indicating that ALS teachers achieved elevated scores in critical result areas, including personal growth, professional development, and accountability, with average ratings routinely exceeding 4.5 on a 5-point scale. This performance directly influences ALS learners' high success rate, as demonstrated by a 95% pass rate in the A&E Equivalent Exam.

The remaining 18.3% of teachers ranked as Very Satisfactory demonstrate commendable performance. However, the ranking suggests an opportunity for improvement. This may pertain to classroom management, instructional methodologies, or professional development, where gradual enhancements could increase teaching efficacy to the Outstanding tier.

The lack of ratings below Satisfactory is noteworthy. It signifies that all ALS educators reach or exceed the anticipated criteria, which is essential considering the distinctive obstacles they encounter, including instructing diverse learners frequently in non-traditional educational contexts and overseeing adaptable learning environments. The prevalence of Outstanding ratings indicates that ALS teachers are adequately prepared, motivated, and proficient in providing quality instruction that addresses the varied requirements of non-traditional learners. This aligns with ALS's objective of delivering functional literacy and equivalency education to out-of-school youth and adults.

Elevated teacher performance is associated with improved student outcomes. The elevated instructor ratings likely enhance the high pass rates in equivalency examinations, signifying that students are efficiently gaining the requisite information and abilities. Although most educators excel, Very Satisfactory ratings indicate a necessity for continuous professional development to target particular areas for enhancement. Customized training programs, mentorship, and peer collaboration could assist these educators in further enhancing their competencies.

The consistently elevated performance highlights the need for ongoing support from the Department of Education and other stakeholders to supply sufficient resources, teaching materials, and institutional connections. Since teacher performance shows no substantial variation based on age, gender, or years of service, support methods must be inclusive and available to all ALS educators. Acknowledging and praising exceptional ALS educators helps maintain and enhance their enthusiasm. Although ALS instruction can be challenging and undervalued, formal recognition of outstanding achievement may enhance teacher retention and motivation.

The results indicate that the existing procedures for teacher recruitment, training, and evaluation in ALS are efficacious. To maintain and enhance this accomplishment, ongoing evaluation and improvement of performance management systems are essential, guaranteeing that educators remain accountable and receive assistance in their professional development. The findings underscore that a proficient ALS teaching workforce is crucial for attaining the program's educational objectives. The implications necessitate ongoing investment in professional development, resource allocation, and acknowledgment to sustain and improve teacher performance,

eventually benefiting ALS learners nationwide.

The results of the exceptional performance of Alternative Learning System (ALS) educators are robustly corroborated by contemporary literature and government policy papers from 2025. The Department of Education's Interim Guidelines on the Performance Management and Evaluation System (PMES) specifically address ALS teachers, highlighting the necessity for ongoing performance assessment and professional growth to guarantee instructional excellence (DepEd, 2025). This framework corresponds with the significant percentage of ALS teachers evaluated as Outstanding and Very Satisfactory, indicating their proficiency and dedication to their teaching responsibilities.

Moreover, the DepEd memorandum on ALS training workshops underscores continuous initiatives to improve teacher competencies via specialized training programs to elevate educator performance and student results (DepEd, 2025). These initiatives provide ALS educators with enhanced pedagogical competencies and teaching methodologies, presumably bolstering their performance evaluations.

A thorough process study of the ALS program by the Philippine Institute for Development Studies (PIDS) in late 2024 substantiates these conclusions. The study indicates a 95% satisfaction rate regarding teaching quality among ALS learners, highlighting teacher commitment and adaptability as significant institutional assets, despite considerable resource limitations, including elevated pupil-teacher ratios and inadequate facilities (PIDS, 2024). The elevated satisfaction aligns with the exceptional performance scores, highlighting the efficacy of ALS educators even under challenging circumstances.

The PIDS review advocates for improved teacher training and resource distribution to sustain and enhance program efficacy, underscoring the necessity of continuous professional development to uphold high teaching standards (PIDS, 2024). The study underscores the need for policy support and institutional cooperation to tackle operational issues, which corresponds with the necessity for comprehensive program support to maintain teacher performance.

The significant relationship between the extent of challenges and opportunities in integrating technology within Alternative Learning System (ALS) Programs and ALS teachers' performance is provided and discussed next.

Table 9 outlines and interprets the significant relationship test between the extent of challenges and opportunities in integrating technology within Alternative Learning System (ALS) Programs and ALS teachers' performance.

Table 9. *Test of Significant Relationship between the Extent of Challenges and Opportunities in the Integration of Technology within Alternative Learning System (ALS) Programs and ALS Teachers' Performance*

Variable	*r*	*p-value*	*Interpretation*
Access to Technology	.221	.090	Not Significant
Digital Literacy Skills	.313	.015	Significant
Perceived Utility of Technology	.259	.046	Significant
Socioeconomic Factors	.336	.009	Significant
Support and Training	.330	.010	Significant
Technological Infrastructure	.231	.076	Not Significant
Overall	.347	.007	Significant

The results in Table 9 test the significant relationship between the extent of challenges and opportunities in integrating technology within Alternative Learning System (ALS) programs and ALS teachers' performance. Among the variables, Socioeconomic Factors with r = .336 and p-value = .009, Support and Training with r = .330 and p-value = .010, Perceived Utility of Technology with r = .259 and p-value = .046, and Digital Literacy Skills with r = .313 and p-value = .015 all showed a significant relationship with ALS teachers' performance.

In particular, the overall correlation with r = .347 and p-value = .007 suggests that these challenges and opportunities significantly impact teacher performance in ALS programs. Therefore, the null hypothesis is not accepted, which states that no significant relationship exists between the extent of challenges and opportunities in integrating technology within Alternative Learning System (ALS) Programs and ALS teachers' performance.

On the other hand, Access to Technology with r = .221 and p-value = .090, and Technological Infrastructure with r = .231 and p-value = .076 were not significantly related to ALS teachers' performance.

The results highlight the significant relationship between the challenges and opportunities in integrating technology within ALS programs and the performance of ALS teachers. Socioeconomic Factors emerged as the strongest variable, underscoring how disparities in access to technology, internet connectivity, and resources directly impact teacher effectiveness. This aligns with findings from the World Bank (2023), which emphasized that socioeconomic barriers hinder equitable access to education and technology for marginalized communities. Addressing these disparities through financial assistance and subsidized digital tools can improve teacher performance and learner outcomes.

Support and training are also strongly correlated, indicating that professional development programs and ongoing technical support are critical for empowering ALS teachers to integrate technology effectively into their teaching practices. UNESCO (2025) advocates for

sustained training initiatives tailored to ALS educators to enhance their confidence and competence in digital tools. Implementing structured workshops and mentorship programs can bridge existing gaps in teacher preparedness.

The Perceived Utility of Technology highlights the importance of demonstrating the practical benefits of technology in education. Teachers who perceive technology as valuable are likelier to integrate it effectively, as Johnson et al. (2016) noted. Providing clear examples of successful technology use in ALS classrooms can foster positive attitudes toward its adoption.

Digital Literacy Skills further emphasize the need for targeted interventions to enhance teachers' proficiency in navigating digital platforms. The DepEd ALS ICT Strategic Plan 2022–2026 (DepEd, 2021) highlights digital literacy as a key competency for 21st-century educators. Incorporating hands-on training sessions focused on digital tools can address this challenge.

In contrast, Access to Technology and Technological Infrastructure were not significantly related to teacher performance, suggesting that while these factors are important, they may not directly influence teaching outcomes. However, improving infrastructure remains essential for ensuring seamless delivery of ALS programs.

The overall correlation underscores the collective impact of these challenges and opportunities on teacher performance. These findings suggest that addressing socioeconomic barriers, enhancing support systems, fostering positive perceptions of technology, and improving digital literacy skills are crucial steps for strengthening ALS programs in the Philippines.

These findings have important implications for the Philippine education system. The significant influence of socioeconomic factors highlights the need for targeted interventions such as subsidized internet access and device provision for low-income communities (World Bank, 2023).

Conclusions

Based on the findings, this study formulated the following conclusions.

This study confirms important challenges and opportunities in tech integration within Malaybalay City's ALS programs, directly revealing that successful implementation requires addressing accessibility gaps, aligning curricula with digital tools, enhancing digital literacy, leveraging perceived utility with supporting policies, mitigating socioeconomic disparities, providing strong teacher training, and strengthening technological infrastructure to ensure equitable access and effective learning outcomes for all.

This outstanding performance of ALS teachers is the product of their dedication and capability in delivering quality instruction to out-of-school youth and adults, consistent with the Division's commitment to providing a safe, motivating, and learner-centered environment. The achievement also aligns with the Department of Education's strategic focus on continuous professional development and skills enhancement for ALS teachers, as evidenced by recent training programs and policies to improve teacher performance and learner outcomes.

This study highlights the critical need for focused interventions in these areas since it shows that socioeconomic factors, support and training, perceived utility of technology, and digital literacy skills greatly influence teacher performance in ALS programs. Conversely, access and infrastructure, while important, did not show a direct relationship to teacher performance, suggesting that other factors play a more dominant role in shaping educator effectiveness in the context of ALS.

Based on the findings and conclusions, the following recommendations are hereby put forth:

Teachers may prioritize developing 'Digital Literacy Bootcamps' to address skill gaps while actively collaborating in curriculum redesign to integrate relevant digital tools, ensuring all learners benefit from technology-enhanced ALS programs regardless of socioeconomic background.

Given the exemplary performance of most ALS teachers in Malaybalay City District IX, it is advised that the Department of Education (DepEd) persist in enhancing and broadening its support systems for ALS educators. This entails offering continuous access to professional development programs specifically designed to address the distinct problems of ALS instruction, as highlighted in the 2025 DepEd Interim Guidelines on Performance Management and Evaluation System.

The government may prioritize comprehensive activities that target these crucial areas to improve the efficacy of ALS programs. This encompasses investing in specialized training programs that enhance digital literacy and provide educators with practical skills for integrating technology into their teaching. Moreover, policymakers should emphasize providing socio-economic support mechanisms for ALS teachers, including financial aid, professional development incentives, and community-based support networks, to alleviate barriers that impact their performance.

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