

Digital accessibility as a determinant of academic performance in Araling Panlipunan

Jorge Ruiz Muñoz*

Teacher I, Banilad National High School - Mandaue City Division, Mandaue, Cebu,
Philippines

Cebu Technological University - Main Campus, R. Palma St., Cebu City, Cebu, Philippines

ABSTRACT

Digital accessibility as a determinant of academic performance in Araling Panlipunan. This study aimed to determine the effectiveness on the use of digital accessibility as a determinant of the academic performance of Grade 7 students in Araling Panlipunan at Banilad National High School, Banilad, Mandaue City, for the school year 2025–2026 as the basis for developing an enhanced lesson guide. The study was conducted in Banilad National High School, Banilad, Mandaue City with fifty (50) grade seven learner respondents. The researcher applied the descriptive-correlational design wherein the respondents were purposely selected to provide answer to the research gap. The researcher utilized an adopted questionnaire from the DepEd Learning Resource Materials, specifically the Araling Panlipunan 7 Learning Material and research-based questionnaire. The data gathered were then statistically analyzed. The study revealed that the academic performance of the Grade 7 respondents in Araling Panlipunan based on their first quarter examination results are in good shape as it belongs to satisfactory to outstanding categories. In addition, the general weighted mean of the respondents' extents of digital accessibilities as to the different facilities is with a verbal description of often. Additionally, the overall weighted mean of the respondents' challenges in digital technology utilization is with a verbal description of often. Furthermore, it concluded that there is no significant relationship between academic performance and extent of digital accessibility. Meanwhile, among the five indicators of digital technology challenges, only the equipment and power limitations indicators showed a statistically significant relationship with students' academic performance and the other four indicators connectivity issues, limited device access, technical and digital literacy gaps, and learning environment and support barrier have produced a signifying no significant correlation with academic performance. It was further recommended that the output of this study entitled, "The Lesson Guide on the Different Competencies in Teaching Araling Panlipunan Seven" be adapted.

Keywords: Teaching Araling Panlipunan, Learning Competencies, Academic Performance, Descriptive Method, Banilad National High School, Banilad, Mandaue City.

Date Submitted: April 10, 2026

Date Accepted: April 17, 2026

Date Published: April 23, 2026

*Corresponding author/ Email: jorgemunez88@gmail.com

DOI: <http://doi.org/10.69651/PIJHSS05021020>

Recommended citation:

Muñoz, J. R. (2026). Digital accessibility as a determinant of academic performance in Araling Panlipunan. Pantao (The International Journal of the Humanities and Social Sciences) 5 (2), 1874-1890.
<http://doi.org/10.69651/PIJHSS05021020>

INTRODUCTION

Digital accessibility has emerged as a critical factor influencing academic performance amid rapid technological advancement and the widespread integration of digital tools in education. It refers to the ease with which students can access and effectively utilize digital technologies such as the internet, learning management systems, electronic devices, and online educational resources. Studies have shown that digital learning systems can significantly enhance student outcomes. Baron (2023) found that the Blackboard System was more effective than traditional lecture methods for Grade 7 students. Similarly, Ote and Jose (2023) revealed that in online learning settings for Grade 8 students, factors such as student motivation, teacher effectiveness, course design, and instructional materials demonstrated weak negative correlations with academic performance, while internet connectivity emerged as the most influential factor. Within the Philippine basic education context, where blended and technology integrated learning modalities are increasingly implemented, understanding the effectiveness of digital accessibility is of paramount importance, particularly in subjects such as Araling Panlipunan, which require complex conceptual understanding, historical analysis, and spatial comprehension.

Globally, digital accessibility has increasingly been recognized as a crucial component in promoting equitable education and improving student performance, particularly in inclusive and digitally integrated classrooms. International frameworks such as the Web Content Accessibility Guidelines by the World Wide Web Consortium (W3C, 2023) emphasize the necessity of designing digital learning environments that accommodate all learners, including those with disabilities and learning difficulties. Numerous studies conducted in developed countries demonstrated that accessible digital tools such as captioned multimedia, screen reader compatible platforms, and user friendly learning management systems positively affect students' academic engagement and learning outcomes across various disciplines (Boeren, 2022). However, in the Philippine context, especially in public junior high schools, a substantial gap remains evident. Although the shift to online and blended learning during the COVID 19 pandemic accelerated digital integration, the emphasis has largely centered on content delivery rather than accessibility considerations (Escubido et al., 2025). Furthermore, only a few studies have specifically examined how digital accessibility influences performance in localized subjects such as Araling Panlipunan, which heavily depend on students' understanding of historical, cultural, and spatial concepts. While regional studies confirmed that digital tools could improve academic performance in subjects such as Science and Social Studies (Agol et al., 2024; Caraga State University, 2024), the extent to which these tools are accessible for diverse learners remains underexplored.

Despite the growing recognition of teachers' best practices in utilizing digital tools and strengthening learners' confidence in technology, there remains limited localized data regarding how these practices are supplemented and experienced by learners in urban national high schools, particularly at Banilad National High School in Banilad, Mandaue City during the school year 2025 to 2026. Existing literature frequently concentrates on broader, remote, or rural contexts, while the unique challenges and dynamics experienced in urban schools remain insufficiently investigated. This research gap highlights the necessity for targeted studies within the Philippine educational setting, particularly within the selected research environment, that not only assess the presence of digital tools but critically examine their accessibility and measurable influence on learning outcomes among Grade 7 students transitioning into secondary education. Consequently, this study seeks to investigate the influence of digital accessibility on the academic performance of Grade 7 students in Araling Panlipunan at Banilad National High School, Banilad, Mandaue City during the school year 2025 to 2026. The findings of the study are expected to serve as the basis for the development of an enhanced

lesson guide that may assist teachers in effectively utilizing digital accessibility to improve learners' academic performance in Araling Panlipunan.

The study assumes that digital accessibility influences the academic performance of Grade 7 students in Araling Panlipunan. It is anchored on several theoretical perspectives, namely Digital Equity Theory (Frontiers, 2023), Information Processing Theory (Computers & Education meta-analysis, 2024), the Theory of Connectivism (Siemens, 2005), and the Technology Acceptance Model or TAM (Venkatesh et al., 2021). It is likewise supported by legal foundations including the DepEd DigiEd 2028 Initiative (DepEd, 2024), the Free Internet Access in Public Places Act or Republic Act No. 10929 (2017), the Basic Education Enrollment Policy or DepEd Order No. 3 (2018), and the Guidelines on Strengthening ICT Policies and Programs in Basic Education or DepEd Order No. 78 (2010).

Digital Equity Theory emphasizes fair and inclusive access to digital tools, resources, and opportunities for all learners regardless of socioeconomic background, geographic location, or disability. The theory asserts that equitable access involves not only the availability of devices and internet connectivity but also the quality of access, digital literacy, user support, and culturally relevant educational content. Within the educational context, digital equity is essential in narrowing achievement gaps and ensuring that all learners can participate meaningfully in digital learning environments. The theory carries significant implications for curriculum development, policymaking, and classroom practices because it advocates for infrastructure development, inclusive instructional design, and teacher training programs that address systemic inequalities affecting learners' engagement with digital learning tools. It directly supports the present study by emphasizing that disparities in digital accessibility can contribute to differences in academic outcomes among students.

The study is likewise anchored on Information Processing Theory, which views learning as a process involving the input, storage, and retrieval of information. Supported by recent meta analyses in Computers & Education (2024), the theory is highly applicable in digital learning environments where multimedia resources, simulations, and digital assessments engage learners' sensory and working memory. The theory explains how digital tools may improve information encoding and retrieval when instructional materials are properly designed according to cognitive principles such as chunking, scaffolding, and reinforcement. It also warns that poorly designed digital learning materials can overwhelm learners' cognitive capacities and hinder comprehension. Therefore, this theory reinforces the importance of effective digital pedagogy and instructional design in maximizing students' academic performance.

Similarly, the Theory of Connectivism proposed by Siemens (2005) provides a modern learning framework suited to the digital age. It posits that learning occurs through networks of digital technologies, social interactions, and shared knowledge systems. Unlike traditional theories focused solely on internal cognitive processes, connectivism recognizes the importance of external digital networks in knowledge construction. Learners interact with peers, educators, digital platforms, and even artificial intelligence systems to co construct understanding and update information continuously. The theory suggests that the ability to locate, evaluate, and apply information from digital sources is more valuable than merely memorizing facts. Consequently, it underscores the need for digital literacy, collaborative learning environments, and adaptive educational systems. This perspective strengthens the present study by highlighting how digital accessibility enables learners to connect with diverse sources of knowledge, thereby enhancing academic performance.

The Technology Acceptance Model further explains users' behavioral intentions to adopt and utilize technology based on perceived usefulness and perceived ease of use. In

educational settings, TAM predicts how teachers and students respond to digital tools and innovations. When educators perceive technology as beneficial and easy to use, they are more likely to integrate it into instruction. The model emphasizes the importance of user centered design, institutional support, professional development, and adequate training in encouraging technology adoption. In relation to the study, TAM explains how the acceptance and utilization of digital tools among teachers and students can influence educational engagement and academic performance. Together, these theories provide a comprehensive framework that explains the relationship between digital accessibility and academic achievement from equity, cognitive, social, and behavioral perspectives.

The study is also grounded on several legal bases that demonstrate the Philippine government's commitment to accessible, inclusive, and technology driven education. The DepEd DigiEd 2028 Initiative (DepEd, 2024) serves as a strategic digital transformation roadmap that seeks to modernize the Philippine basic education system through enhanced digital infrastructure, device provision, improved connectivity, digital literacy development, and technology integration into the curriculum. This initiative supports the study by emphasizing teacher readiness, equitable access to technology, and the integration of digital tools into instructional practices.

In addition, the Free Internet Access in Public Places Act or Republic Act No. 10929 institutionalizes the provision of free Wi Fi in public areas, including public schools. This law addresses connectivity barriers and supports digital learning by ensuring that teachers and students can access online educational resources. The Basic Education Enrollment Policy or DepEd Order No. 3 (2018) standardizes enrollment processes and incorporates digital platforms into administrative systems, thereby reflecting the growing reliance on digital technologies in education delivery. Likewise, the Guidelines on Strengthening ICT Policies and Programs in Basic Education or DepEd Order No. 78 (2010) established the foundation for ICT integration in schools through the development of ICT based instructional plans, digital learning materials, and teacher training programs. Collectively, these legal bases reinforce the importance of digital accessibility, infrastructure support, teacher competency, and inclusive digital policies in improving academic performance.

Digital accessibility has become a central concern in contemporary education, particularly with the expansion of online and hybrid learning models. It refers to the degree to which students can access and effectively use digital technologies such as laptops, mobile devices, internet connectivity, and online learning platforms (Dhawan, 2020). The absence of adequate digital access poses substantial challenges to students' academic performance, especially in developing countries where infrastructure limitations and affordability remain significant barriers. The digital divide, which refers to the disparity between those who have access to digital tools and those who do not, became more evident during the COVID 19 pandemic. UNESCO (2021) emphasized that students without reliable internet access and educational technologies face higher risks of academic disengagement and poor performance. Similarly, the OECD (2020) reported that disparities in digital access were associated with lower academic engagement and achievement, particularly among socioeconomically disadvantaged learners.

Digital literacy likewise plays a critical role in determining the effectiveness of digital accessibility. Access alone is insufficient if learners do not possess the competencies necessary to navigate digital learning environments effectively. Students with stronger digital literacy skills are better able to complete academic tasks, manage learning responsibilities, and seek assistance when needed, thereby improving academic outcomes (Nguyen et al., 2021). Furthermore, parental support and the home learning environment significantly influence the impact of digital accessibility on students' academic success (Almahasees et al., 2021). As educational systems continue integrating digital technologies, understanding the broader

dimensions of digital accessibility becomes increasingly vital for achieving educational equity. Digital exclusion not only affects academic performance but also influences long term educational attainment, employment opportunities, and social inclusion (World Bank, 2022).

Recent studies further confirm the positive relationship between digital accessibility and academic performance. Pokhrel and Chhetri (2021) highlighted that insufficient access to internet connectivity and digital devices contributed to decreased academic engagement and performance during the pandemic. In the Philippine setting, Pacaol et al. (2021) found that students with consistent digital access reported higher academic performance, greater learning satisfaction, and lower levels of academic stress. Similarly, De Guzman and Montalbo (2021) observed that public high school students with limited access to online learning tools encountered difficulties in comprehension, time management, and assignment completion compared with students in private schools. Tumabiene and Echavez Samson (2023) further revealed that Cebu based students who possessed both access to digital tools and digital literacy training demonstrated higher academic performance and learning motivation. Their findings emphasized that the impact of digital accessibility depends not only on the existence of access but also on its quality, frequency, and support systems.

The challenges associated with digital accessibility are more pronounced in developing countries such as the Philippines, where public infrastructure and digital policy implementation continue to evolve. Cahapay (2020) noted that insufficient teacher training in digital technologies negatively affects instructional effectiveness and student learning outcomes. Empirical studies conducted across South Asia, including the Philippines, documented issues such as internet disruptions, device sharing at home, and emotional stress, all of which were associated with lower academic achievement (Pokhrel & Chhetri, 2021). In the Philippine context, Pacaol et al. (2021) reported that students in state universities experienced financial limitations, unstable power supply, and inadequate technological support, resulting in delayed submissions and poor academic performance. Morillos and Carreon (2022) also found that learners in Cebu Province often relied on mobile phones and prepaid data, which were insufficient for sustained academic engagement in online learning environments.

The foregoing discussions establish the theoretical and conceptual foundation of the study concerning the effectiveness of digital accessibility as a determinant of the academic performance of Grade 7 students in Araling Panlipunan at Banilad National High School, Banilad, Mandaue City during the school year 2025 to 2026. The study ultimately aims to contribute empirical evidence that may support the development of an enhanced lesson guide designed to improve teachers' utilization of digital accessibility and strengthen learners' academic performance in Araling Panlipunan.

Statement of the Problem

This research determined the effectiveness of the use of digital accessibility as a determinant of the academic performance of Grade 7 students in Araling Panlipunan at Banilad National High School, Banilad, Mandaue City, for the school year 2025–2026 as the basis for developing an enhanced lesson guide.

Specifically, this study sought to answer the following questions:

1. What are the periodical test scores of the Grade 7 respondents in Araling Panlipunan based on the selected competencies such as *naipaliliwanag ang mahalagang ginampanan ng katangiang pisikal ng Pilipinas at ng rehiyon sa pagbuo ng sinaunang kasaysayan at kalinangan ng mga mamamayan sa Pilipinas at Timog Silangang Asya, nasusuri ang heograpiyang pantao ng Timog Silangang Asya batay sa pangkat*

etnolinggwistiko, pananampalataya, estrukturang panlipunan, at ugnayang pangkapangyarihan, naiuugnay ang katangian ng sinaunang lipunan sa pagkakamag anak, pamilya at kasarian (kinship, family, and gender) sa Timog Silangang Asya, nasusuri ang kalinangang Austronesyano at Imperyong Maritima kaugnay sa pagbuo ng kalinangan ng Pilipinas at Timog Silangang Asya, naiuugnay ang sinaunang kabihasnan ng Pilipinas sa mga bansa sa Timog Silangang Asya, China at India, at napapahalagahan ang ugnayan ng heograpiya at sinaunang kasaysayan ng mga bansa sa Timog Silangang Asya?

2. What are the respondents' extents of digital accessibilities as to the different facilities?
3. After the strategy, what is the academic performance of the Grade 7 respondents in Araling Panlipunan based on their first quarter examination results in the aforementioned competencies?
4. Is there a significant relationship between the respondents' extent of digital accessibility in terms of facilities and challenges in digital technology utilization and their academic performance in Araling Panlipunan?
5. What are the challenges in digital technology utilization in terms of connectivity issues, limited device access, technical and digital literacy gaps, equipment and power limitations, and learning environment and support barriers?
6. Based on the findings of the study, what enhanced lesson guide could be developed?

METHODOLOGY

The study employed a descriptive correlational research design to determine the effectiveness of digital accessibility as a determinant of the academic performance of Grade 7 students in Araling Panlipunan at Banilad National High School, Banilad, Mandaue City, for the school year 2025–2026 as the basis for developing an enhanced lesson guide. Specifically, the study assessed the respondents' periodical test scores, the academic performance of the Grade 7 respondents in Araling Panlipunan based on their first quarter examination results, the extents of digital accessibilities as to the different facilities, the challenges in digital technology utilization, and the significant relationship between the respondents' extent of digital accessibility in terms of facilities and challenges in digital technology utilization and their academic performance in Araling Panlipunan. The study utilized the input, process, and output system model as the framework of the research process. The input of the study included the respondents' periodical test scores, academic performance based on first quarter examination results, extents of digital accessibilities as to the different facilities, challenges in digital technology utilization, and the significant relationship between the respondents' extent of digital accessibility in terms of facilities and challenges in digital technology utilization and their academic performance in Araling Panlipunan. The process involved the distribution of transmittal letters and questionnaires. Prior to the administration of the survey questionnaire, the researcher sought permission from the different immediate superiors. The research-based questionnaires were personally distributed, administered, and retrieved by the researcher. The gathered data were tabulated, analyzed, computed, and evaluated to determine the results of the study. The output of the research provided empirical data that served as the basis in creating and enhancing a lesson guide that could help teachers effectively utilize digital accessibilities and amplify the academic performance of learners in Araling Panlipunan.

The study was conducted at Banilad National High School, Banilad, Mandaue City, one of the public secondary schools in Cebu City. Banilad National High School is a newly established Junior High School in the Division of Mandaue City which started its operation in 2013 catering only Grade 7 learners. The school is situated along A.S. Fortuna Street, Banilad, Mandaue City adjacent to the barangay hall and occupies a land area of 1.151 square meters. It

is approximately 2.5 kilometers away from the heart of Mandaue City and is accessible through jeepneys and other forms of transportation. Since the barangay is a flood prone area, students hesitate to attend school during rainy days due to the threat of flooding. Banilad National High School strives to provide all students with relevant learning experiences. During its first year of operation, the school was composed of one school head, Dr. Fe E. Magale, and three school teachers. The school catered only fifty-nine (59) Grade 7 students who temporarily occupied the Banilad barangay gymnasium. Subsequently, the school served Grades 7 and 8 learners with four teachers and one school head, still under the leadership of Dr. Fe E. Magale. In its third year, the school opened another level for Grade 9 learners and recorded a total population of three hundred seventy-five (375) students. From four teachers, the faculty increased to seven teachers under the supervision of Mrs. Marilou P. Mabansag as principal. In the middle of the school year 2015-2016, Mrs. Catherine C. Requilme became the new school head. During this period, the Department of Public Works and Highways donated one school building composed of eight rooms, resulting in a total of two school buildings for Banilad National High School learners. At present, the school has been serving learners for eight years and is spearheaded by Dr. Leslie Joy R. Paña with sixteen teachers composed of 3 Master Teachers, 5 Teacher III, and 8 Teacher I positions.

The respondents of the study were the Grade 7 learners of Banilad National High School, Banilad, Mandaue City for the school year 2025-2026. The study utilized purposive sampling in selecting the respondents. The total population of Grade 7 learners involved in the study was 50 respondents. Among the respondents, 25 or 50.00% were male and 25 or 50.00% were female, resulting in a total of 50 respondents or 100%.

The researcher utilized an adopted questionnaire from the DepEd Learning Resource Materials, specifically the Araling Panlipunan 7 Learning Material and a research-based questionnaire adopted from Santo et al. (2018). The questionnaire was composed of a multiple-choice type test containing forty-eight (48) items. Prior to the administration of the research instrument, the researcher sought permission from the school principal of Banilad National High School, Banilad, Mandaue City for the school year 2025-2026 together with the recommending approval of the research adviser. After permission was granted, the preliminary data gathering through the test questionnaire was administered.

The statistical tools used to summarize, analyze, and interpret the gathered data included simple percentage, weighted mean, and Pearson moment product correlation r for paired samples respectively. The researcher collected and consolidated the data in tables using Microsoft Excel. The respondents' periodical test scores, extents of digital accessibilities as to the different facilities, and challenges in digital technology utilization were tested using the weighted mean. The academic performance of the Grade 7 respondents in Araling Panlipunan based on their first quarter examination results was treated using simple percentage frequency. Furthermore, the significant relationship between the respondents' extent of digital accessibility in terms of facilities and challenges in digital technology utilization and their academic performance in Araling Panlipunan was determined using Pearson moment product correlation r . The simple percentage was used to test the respondents' periodical test scores and academic performance in Araling Panlipunan based on their first quarter examination results. The weighted mean was used to determine the respondents' extents of digital accessibilities as to the different facilities and challenges in digital technology utilization. Pearson moment product correlation r was employed to test the significant relationship between the respondents' extent of digital accessibility in terms of facilities and challenges in digital technology utilization and their academic performance.

The study utilized a five-point Likert scale in determining the respondents' extents of digital accessibilities as to the different facilities and challenges in digital technology utilization. A weight of 5 with a range of 4.20-5.00 corresponded to "Always / Very High Extent" with the verbal interpretation stating that the respondent strongly agrees with the statement. A weight of 4 with a range of 3.40-4.19 corresponded to "Often / High Extent" which meant that the respondent agrees with the statement. A weight of 3 with a range of 2.60-3.39 corresponded to "Sometimes / Moderate Extent" which meant that the respondent does not agree or disagree with the statement. A weight of 2 with a range of 1.80-2.59 corresponded to "Rarely / Low Extent" which meant that the respondent disagrees with the statement. A weight of 1 with a range of 1.00-1.79 corresponded to "Never / Very Low Extent" which meant that the respondent strongly disagrees with the statement.

In addition, the researcher adopted the DepEd grading system for the first quarterly examination of the school year 2025-2026. The descriptor "Outstanding (O)" corresponded to a grading scale of 90-100 with a remark of Passed. "Very Satisfactory (VS)" corresponded to a grading scale of 85-89 with a remark of Passed. "Satisfactory (S)" corresponded to a grading scale of 80-84 with a remark of Passed. "Fairly Satisfactory (FS)" corresponded to a grading scale of 75-79 with a remark of Passed. "Did Not Meet Expectations (DnME)" corresponded to grades below 75 with a remark of Passed. Furthermore, the researcher employed the department's guide in interpreting the learners' periodical test scores. A range of 6-8 was categorized as "Mastered Skill" with the verbal description stating that the competency is highly mastered. A range of 5-3 was categorized as "Least Mastered Skill" with the verbal description stating that the competency is less mastered. A range of 2- corresponded to "Not Mastered" with the verbal description stating that the competency is not mastered at all.

For better and clearer understanding of the study, the operational definition of terms was included. Academic Performance indicated the level of achievement demonstrated by Grade 7 students in academic subjects measured primarily through assessments such as quizzes, assignments, and the first quarter examination. Araling Panlipunan referred to a learning discipline concerned with the study of society. Challenges Encountered referred to the difficulties faced by students or teachers such as connectivity issues, limited device access, technical and digital literacy gaps, equipment and power limitations, and learning environment. Digital Accessibilities referred to the availability, usability, and equitability of digital devices, internet connectivity, and educational platforms that Grade 7 students could access for learning and academic purposes. Dimensions of Digital Technology referred to the various components of digital integration in education including accessibility, device usage, internet connectivity, digital literacy, and student engagement with technology. Enhanced Lesson Guide referred to a structured instructional tool or plan that integrates digital tools and resources to facilitate effective teaching and improve student engagement and academic outcomes. Facilities referred to physical and digital infrastructure such as computer laboratories, internet access points, projectors, and other ICT tools available in the school to support digital learning.

RESULTS AND DISCUSSION

The Results and Discussion section presents and interprets the data gathered from the 50 Grade 7 respondents of Banilad National High School, Banilad, Mandaue City, regarding their academic performance in Araling Panlipunan, extent of digital accessibility, challenges in digital technology utilization, and the significant relationships among the variables investigated. The study employed a descriptive-correlational research design with purposive sampling to select the respondents. Data were collected using adopted and research-based questionnaires alongside respondents' first quarter examination results and periodical test scores in Araling Panlipunan. Statistical treatments utilized in the analysis included frequency

count, percentage, weighted mean, standard deviation, and Spearman's rho correlation. The discussion is grounded on the data gathered and interpreted directly in relation to the objectives of the study in order to determine the effectiveness of digital accessibility as a determinant of the academic performance of Grade 7 learners in Araling Panlipunan.

The periodical test scores of the Grade 7 respondents in Araling Panlipunan based on the selected competencies revealed varying levels of mastery among learners. In the competency "Naipaliliwanag ang mahalagang ginampanan ng katangiang pisikal ng Pilipinas at ng rehiyon sa pagbuo ng sinaunang kasaysayan at kalinangan ng mga mamamayan sa Pilipinas at Timog Silangang Asya," 30 respondents demonstrated mastered skill while 20 respondents were categorized under least mastered skill and none were classified as not mastered out of the total 50 respondents. In the competency "Nasusuri ang heograpiyang pantao ng Timog Silangang Asya batay sa pangkat-etnolinggwistiko, pananampalataya, estrukturang panlipunan, at ugnayang pangkapangyarihan," 25 respondents demonstrated mastered skill while 25 respondents were categorized under least mastered skill and none were classified as not mastered. In the competency "Naiiugnay ang katangian ng sinaunang lipunan sa pagkakamag-anak, pamilya at kasarian (kinship, family, and gender) sa Timog Silangang Asya," 27 respondents demonstrated mastered skill while 23 respondents were categorized under least mastered skill. Likewise, in the competency "Nasusuri ang kalinangang Austronesyano at Imperyong Maritima kaugnay sa pagbuo ng kalinangan ng Pilipinas at Timog Silangang Asya," 33 respondents demonstrated mastered skill while 17 respondents were categorized under least mastered skill. Meanwhile, the competency "Naiiugnay ang sinaunang kabihasnan ng Pilipinas sa mga bansa sa Timog Silangang Asya, China at India" recorded the highest number of least mastered skill responses with 30 respondents, while only 20 respondents demonstrated mastered skill. Lastly, in the competency "Napapahalagahan ang ugnayan ng heograpiya at sinaunang kasaysayan ng mga bansa sa Timog Silangang Asya," 25 respondents demonstrated mastered skill while 25 respondents fell under least mastered skill. Across all competencies, none of the respondents were categorized as not mastered based on the legend indicating that scores ranging from 6-8 represent mastered skill, 5-3 represent least mastered skill, and 3-0 represent not mastered. These findings suggest that although the respondents generally possessed foundational understanding of the competencies in Araling Panlipunan, there remained selected competencies that required further instructional reinforcement, particularly those involving regional linkages and historical relationships with neighboring Asian civilizations.

The academic performance of the Grade 7 respondents in Araling Panlipunan based on their first quarter examination results demonstrated generally favorable outcomes. Among the 50 respondents, 18 or 36% obtained grades ranging from 90-100 with a descriptive rating of Outstanding, 13 or 26% obtained grades ranging from 85-89 with a descriptive rating of Very Satisfactory, 15 or 30% obtained grades ranging from 80-84 with a descriptive rating of Satisfactory, and 4 or 8% obtained grades ranging from 75-79 with a descriptive rating of Fairly Satisfactory, while none of the respondents obtained a grade below 75 or categorized as Did not meet expectations. The computed mean was 86.42 with a standard deviation of 4.59 and a descriptive interpretation of Very Satisfactory. These findings indicate that the majority of learners achieved academic performance levels ranging from satisfactory to outstanding. The findings further imply that the integration of digital tools in the teaching-learning process contributed positively to learners' academic achievement. Interactive learning platforms, multimedia resources, and online assessment systems appear to have enhanced students' engagement, flexibility, and independent learning. Through the integration of technology-enhanced instruction, learners were provided with opportunities to explore concepts beyond

traditional classroom settings, thereby improving comprehension and retention of knowledge. The findings support the observations of Del Mundo (2022) and Paquinol et al. (2024), who asserted that learners exposed to technology-integrated instruction tend to demonstrate higher motivation, improved understanding, and enhanced academic achievement.

The extent of digital accessibility as to the different facilities yielded an overall weighted mean of 3.60 with a standard deviation of 1.22 and a verbal description of Often. Among the indicators, the statement “Teaching staff are trained to use accessibility features in classroom technologies” obtained the highest weighted mean of 3.96 with a standard deviation of 1.18 and a verbal description of Often. This indicates that learners perceived their teachers as adequately equipped with the knowledge and competencies necessary for integrating accessibility tools and digital technologies in the delivery of instruction. The findings imply that teachers’ familiarity with screen readers, captioning tools, text-to-speech software, and adaptive technologies contributes to the establishment of a more inclusive and engaging learning environment. UNESCO (2024) emphasized that well-trained teachers in digital accessibility create equitable opportunities for learners, while Forsström et al. (2025) highlighted that teacher preparation in accessibility tools improves participation and academic outcomes. Similarly, CAST (2023) asserted that teachers must understand and apply accessibility principles to support diverse learners effectively. The second highest indicator was “Learning platforms (e.g., Moodle, Blackboard, Canvas) are easy to navigate using assistive technologies” with a weighted mean of 3.94, standard deviation of 1.04, and a verbal description of Often. This finding signifies that learners recognized the accessibility and inclusivity of learning management systems integrated within the teaching-learning process. Accessibility features such as keyboard navigation, compatibility with screen readers, and voice recognition software enabled students with disabilities or learning difficulties to access educational content effectively. Al-Mahdi and Khurram (2023) noted that accessibility-centered learning management systems significantly improve learners’ satisfaction, navigation, and participation in digital learning environments. Other indicators included “Recorded lectures are captioned accurately and consistently” with a weighted mean of 3.84 and standard deviation of 1.06, “Classroom spaces are equipped to support inclusive and accessible digital teaching” with a weighted mean of 3.82 and standard deviation of 1.19, “Online course materials are provided in accessible formats” with a weighted mean of 3.74 and standard deviation of 1.12, “Students with disabilities can fully engage with digital content presented during in-person classes” with a weighted mean of 3.42 and standard deviation of 1.31, “The institution has clear accessibility standards for online teaching content” with a weighted mean of 3.42 and standard deviation of 1.25, “I can request accessible formats of teaching materials without difficulty” with a weighted mean of 3.40 and standard deviation of 0.99, “The digital equipment in teaching rooms is accessible to instructors with disabilities” with a weighted mean of 3.38 and standard deviation of 1.29, and “I have easy access in the use of internet café, laptop, and personal computer when I need to do online school-related tasks” with a weighted mean of 3.06 and standard deviation of 1.45. The overall findings imply that respondents generally perceived the digital accessibility facilities within the school as often available and supportive of learning, thereby reinforcing learners’ engagement and understanding in Araling Panlipunan through technology-enhanced instruction.

The challenges in digital technology utilization in terms of connectivity issues produced an overall weighted mean of 3.64 with a standard deviation of 1.38 and a verbal description of Often. The indicator “The cost of internet or mobile data limits my online learning activities” obtained the highest weighted mean of 3.90 with a standard deviation of 1.30 and a verbal description of Often, followed by “I experience unstable or slow internet connection during school tasks” with a weighted mean of 3.66 and standard deviation of 1.51, while “I get frequent disconnections while attending online activities or searching for information”

obtained a weighted mean of 3.36 with a standard deviation of 1.29 and a verbal description of Sometimes. These findings indicate that despite residing in urban areas, learners continued to experience internet-related barriers that affected their participation in technology-enhanced learning. Connectivity limitations disrupted access to online resources, delayed assignment submission, and hindered engagement in digital activities. UNESCO (2024) emphasized that connectivity challenges undermine the benefits of technology-enhanced learning, while Tanding (2025) noted that technical interruptions contribute to frustration and reduced learner motivation, thereby negatively affecting academic performance.

The challenges in digital technology utilization in terms of limited device access yielded an overall weighted mean of 3.27 with a standard deviation of 1.38 and a verbal description of Sometimes. The statement “I have to share my device with other family members” obtained a weighted mean of 3.36 with a standard deviation of 1.21, while “I do not have enough devices for my academic needs” obtained a weighted mean of 3.18 with a standard deviation of 1.34. These findings imply that respondents encountered moderate limitations in accessing sufficient digital devices necessary for academic tasks. Limited access to digital tools reduced opportunities for personalized and interactive learning experiences, thereby constraining the full potential of technology integration in education. Al-Mahdi and Khurram (2023) explained that inadequate access to digital tools contributes to disparities in learning opportunities and academic outcomes, while Tanding (2025) asserted that limited digital resources hinder teachers from implementing multimedia-enhanced instructional strategies effectively. The challenges in digital technology utilization in terms of technical and digital literacy gaps recorded an overall weighted mean of 3.51 with a standard deviation of 1.32 and a verbal description of Often. The indicators “I have difficulty operating digital devices for school purposes” and “I find it hard to troubleshoot or fix problems with my devices” both obtained weighted means of 3.66 with standard deviations of 1.33 and verbal descriptions of Often. The statement “I struggle with installing or using applications for my lessons” obtained a weighted mean of 3.50 with a standard deviation of 1.43, while “I have difficulty searching and evaluating reliable information online” obtained a weighted mean of 3.22 with a standard deviation of 1.28 and a verbal description of Sometimes. These findings demonstrate that respondents experienced notable difficulties in navigating and utilizing digital technologies effectively. Technical and digital literacy gaps hindered learners’ ability to access instructional materials, participate in online activities, and complete academic tasks efficiently. Paquinol et al. (2024) emphasized that inadequate digital literacy skills among learners negatively affect engagement, comprehension, and timely completion of educational tasks in digital learning environments.

The challenges in digital technology utilization in terms of equipment and power limitations yielded an overall weighted mean of 3.49 with a standard deviation of 1.37 and a verbal description of Often. The indicator “I cannot use my device during power outages or when there is no charging facility” obtained the highest weighted mean of 3.62 with a standard deviation of 1.31, followed by “My device is outdated and cannot support needed applications” with a weighted mean of 3.50 and standard deviation of 1.39, while “My device often malfunctions or stops working” obtained a weighted mean of 3.36 with a standard deviation of 1.44 and a verbal description of Sometimes. These findings imply that equipment reliability and power stability remained considerable barriers to effective digital learning participation. Learners who encountered outdated devices and unstable electricity supply experienced disruptions in accessing learning management systems, completing assignments, and engaging in online instruction. Del Mundo (2022) and Al-Ahmad et al. (2022) highlighted that

inadequate technological infrastructure and power interruptions exacerbate the digital divide and reduce equitable access to educational opportunities.

The challenges in digital technology utilization in terms of learning environment and support barriers produced an overall weighted mean of 3.34 with a standard deviation of 1.39 and a verbal description of Sometimes. The statement “My school provides limited guidance or support in using digital tools for learning” obtained the highest weighted mean of 3.76 with a standard deviation of 1.25 and a verbal description of Often, while “I lack access to clear and updated learning resources for online or technology-based lessons” obtained a weighted mean of 3.16 with a standard deviation of 1.40, and “I get distracted by games, social media, or entertainment while using devices for schoolwork” obtained a weighted mean of 3.10 with a standard deviation of 1.45. These findings indicate that although learners did not experience extremely high levels of environmental and institutional barriers, support limitations still affected their engagement with digital learning. Al-Mahdi and Khurram (2023) emphasized that insufficient technical assistance and institutional guidance intensify difficulties in educational technology utilization, while Tanding (2025) observed that limited teacher preparation and inadequate instructional support reduce the effectiveness of technology-enhanced learning implementation.

The summary of the challenges in digital technology utilization revealed an overall weighted mean of 3.47 with a standard deviation of 1.37 and a verbal description of Often. Connectivity issues indicators obtained the highest mean of 3.64 with a standard deviation of 1.38 and a level of Often, followed by technical and digital literacy gaps indicators with a mean of 3.51 and standard deviation of 1.32, equipment and power limitations indicators with a mean of 3.49 and standard deviation of 1.37, learning environment and support barriers indicators with a mean of 3.34 and standard deviation of 1.39, and limited device access indicators with a mean of 3.27 and standard deviation of 1.38. These findings collectively indicate that learners encountered considerable challenges in the utilization of digital technologies, particularly in relation to internet connectivity, digital literacy, and equipment functionality. Such challenges potentially hindered learners’ effective engagement with educational technologies and influenced the efficiency of technology-enhanced instruction.

The test on the significant relationship between academic performance and extent of digital accessibility utilized Spearman’s rho correlation analysis. The results revealed that the relationship between academic performance and extent of digital accessibility was positive but not statistically significant, with Spearman’s rho (ρ) = 0.173, $df = 48$, and $p\text{-value} = 0.229$. Since the $p\text{-value}$ was greater than the 0.05 significance level, the null hypothesis was failed to reject, leading to the interpretation that there is no significant relationship between academic performance and extent of digital accessibility. Although the computed correlation coefficient indicated a very weak positive relationship, the result suggests that digital accessibility alone did not significantly influence the academic performance of the respondents. These findings imply that factors such as learner motivation, teaching quality, study habits, parental support, and instructional strategies may exert stronger influence on academic achievement than mere access to digital devices and internet connectivity. Limniou (2021) similarly found no significant difference in academic results among students who brought digital devices into the classroom, while Li (2023) reported that students’ usage of electronic devices did not significantly affect grades. Likewise, Kuş (2025) identified only a weak negative association between technology-related behaviors and academic performance, suggesting that increased access or usage of technology does not automatically result in improved learning outcomes.

The test on the significant relationship between academic performance and the five indicators of challenges in digital technology utilization also employed Spearman’s rho correlation analysis. The findings showed that among the five indicators, only equipment and power limitations indicators demonstrated a statistically significant relationship with academic

performance, with Spearman's rho (ρ) = -0.335 , $df = 48$, and $p\text{-value} = 0.017^*$. Since the p -value was less than the 0.05 level of significance, the null hypothesis was rejected, leading to the interpretation that there is a weak, negative significant relationship between equipment and power limitations and academic performance. The negative correlation indicates that as issues related to equipment malfunction, outdated devices, and power interruptions increase, students' academic performance tends to decrease. This finding highlights the critical importance of reliable devices and stable electricity supply in supporting effective digital learning engagement. Learners who experience frequent power interruptions or lack access to functioning technological equipment are more likely to encounter disruptions in online learning, delayed task completion, and reduced participation in educational activities. The findings are consistent with the observations of Owolabi et al. (2024), who reported that power outages significantly disrupted students' study routines, project completion, and concentration, resulting in lower grades and delayed submissions. Similarly, studies conducted in Nigeria revealed that unreliable electricity supply negatively affected learners' use of educational equipment and subsequently reduced academic performance. Meanwhile, the remaining indicators including connectivity issues indicators with Spearman's rho (ρ) = -0.143 , $df = 48$, and $p\text{-value} = 0.321$, limited device access indicators with Spearman's rho (ρ) = -0.098 , $df = 48$, and $p\text{-value} = 0.500$, technical and digital literacy gaps indicators with Spearman's rho (ρ) = -0.146 , $df = 48$, and $p\text{-value} = 0.312$, and learning environment and support barriers indicators with Spearman's rho (ρ) = -0.069 , $df = 48$, and $p\text{-value} = 0.635$ all produced p -values greater than the 0.05 significance level. Consequently, the null hypotheses for these variables were failed to reject, indicating that there is no significant relationship between these indicators and academic performance. These findings suggest that although learners experienced moderate to high levels of challenges in digital technology utilization, only equipment and power limitations exerted a statistically measurable influence on academic outcomes.

Overall, the findings of the study revealed that the Grade 7 respondents generally demonstrated satisfactory to outstanding academic performance in Araling Panlipunan while simultaneously experiencing frequent digital accessibility and technology utilization challenges. The respondents perceived that digital accessibility facilities within the school environment were often available and supportive of inclusive learning, particularly through teacher preparedness and accessible learning platforms. However, learners also encountered recurring challenges related to connectivity issues, technical and digital literacy gaps, equipment limitations, and institutional support barriers. Correlation analysis further established that extent of digital accessibility did not have a statistically significant relationship with academic performance, whereas equipment and power limitations demonstrated a weak negative significant relationship with academic achievement. These findings emphasize that the effectiveness of digital learning extends beyond mere access to technological resources and requires dependable infrastructure, stable power supply, effective instructional integration, and comprehensive learner support systems. The results contribute to the growing body of literature on digital accessibility and academic performance by demonstrating that while digital technologies can enrich teaching and learning experiences, their educational impact depends largely on the quality, reliability, and contextual implementation of technological resources within the learning environment. The discussion of these findings provides a substantial basis for the formulation of conclusions, recommendations, and enhanced instructional interventions aimed at improving digital learning experiences and academic outcomes among Grade 7 learners in Araling Panlipunan.

CONCLUSION

This study determined the effectiveness of digital accessibility as a determinant of the academic performance of Grade 7 students in Araling Panlipunan at Banilad National High School, Banilad, Mandaue City, during the school year 2025–2026, as the basis for the development of an enhanced lesson guide. Utilizing a descriptive correlational research design, the study involved fifty (50) Grade 7 learner respondents who were purposively selected to address the identified research gap. An adopted questionnaire from the DepEd Learning Resource Materials, particularly the Araling Panlipunan 7 Learning Material and other research-based questionnaires, served as the primary instrument in gathering the necessary data, which were subsequently subjected to appropriate statistical analyses. The findings revealed that the respondents generally demonstrated a satisfactory level of understanding in Araling Panlipunan, as reflected in the absence of “Not Mastered” ratings across all selected competencies. Furthermore, the learners’ first quarter examination results indicated that the majority of the respondents achieved academic performance levels ranging from satisfactory to outstanding, suggesting that the learners were able to meet the expected academic standards in the subject.

The study further established that the overall extent of digital accessibility among the respondents in terms of different facilities was verbally interpreted as often, indicating that learners generally had moderate access to digital tools and resources relevant to the teaching and learning process. Likewise, the respondents’ challenges in digital technology utilization also yielded an overall weighted mean with a verbal description of often, signifying that learners regularly encountered barriers associated with digital learning. These challenges included connectivity issues, limited device access, technical and digital literacy gaps, equipment and power limitations, and learning environment and support barriers. Despite these challenges, the results showed that there was no significant relationship between the respondents’ academic performance and the overall extent of digital accessibility. This finding suggests that mere access to digital resources alone does not automatically translate into improved academic achievement among learners.

The absence of a significant relationship between digital accessibility and academic performance may be explained through several theoretical perspectives. Digital Equity Theory supports the interpretation that equitable access to digital resources does not necessarily guarantee improved educational outcomes because other contextual and instructional factors influence learning achievement. Similarly, the Technology Acceptance Model (TAM) explains that access to technology becomes meaningful only when learners perceive digital tools as useful and are willing to integrate them effectively into their learning experiences. Connectivism also reinforces the finding because learning is not solely dependent on access to technology but on the quality of learners’ engagement within networks of knowledge, collaboration, and interaction. Consequently, the findings imply that digital accessibility serves only as one component of the broader educational process and must be accompanied by meaningful pedagogical integration, learner engagement, and instructional support to produce substantial academic gains.

Moreover, among the five indicators of digital technology challenges, only equipment and power limitations demonstrated a statistically significant relationship with students’ academic performance. This finding indicates that insufficient devices, unstable electricity supply, and related technological constraints directly affect learners’ ability to participate effectively in digital learning activities and complete academic tasks. In contrast, connectivity issues, limited device access, technical and digital literacy gaps, and learning environment and support barriers produced p-values greater than 0.05, indicating no significant correlation with academic performance. These findings emphasize that although learners encounter various

technological challenges, equipment reliability and stable power availability remain the most critical barriers influencing academic outcomes.

In light of these findings, the study highlights the continuing challenges faced by teachers in teaching Araling Panlipunan, particularly in addressing learners' diverse needs and improving academic performance through appropriate instructional strategies. The increasing integration of digital technologies in education requires teachers to develop advanced and differentiated lesson plans that respond effectively to the varying abilities and learning preferences of students. At the same time, teachers must continuously enhance their competencies in the application and integration of digital tools within the teaching and learning process to maximize the potential of technology enriched instruction. Consequently, the enhanced lesson guide developed through this study is strongly recommended as a practical instructional resource that may assist teachers in selecting relevant and suitable learning activities, identifying appropriate digital instructional materials, and improving learners' first quarter performance in Araling Panlipunan Seven.

The proposed lesson guide is grounded in the recognition that Araling Panlipunan plays a significant role in cultivating civic consciousness, historical understanding, and cultural identity among Filipino learners. Traditional instructional approaches often lead to learner disengagement and limited critical thinking; thus, integrating digital technologies presents an opportunity to transform the learning environment into one that is more interactive, inquiry based, learner centered, and responsive to the demands of 21st century education. Research literature cited in the study supports the view that digital technologies, including multimedia presentations, interactive maps, digital graphic organizers, and virtual field trips, can increase student engagement, strengthen motivation, and improve learning outcomes when effectively integrated into instruction. Nevertheless, the study also acknowledges persistent issues such as unequal ICT infrastructure, variations in teacher readiness, and the digital divide, which continue to affect the successful implementation of digital learning in the Philippine educational context.

Overall, the study concludes that while digital accessibility alone does not significantly determine academic performance in Araling Panlipunan, the strategic and meaningful integration of digital technologies, combined with effective pedagogy, adequate instructional support, and reliable technological infrastructure, remains essential in improving learner engagement and educational quality. The findings contribute to the growing body of literature emphasizing that educational technology becomes most effective when aligned with sound instructional practices and contextual realities. Furthermore, the enhanced lesson guide developed through this study offers a practical intervention that may support teachers in delivering more engaging and effective instruction while addressing the diverse learning needs of Grade 7 students. Ultimately, the study reinforces the importance of continuous teacher development, equitable access to functional technological resources, and sustained efforts toward improving digital learning environments to ensure meaningful and inclusive educational experiences for learners in Araling Panlipunan.

REFERENCES

Almahasees, Z., Mohsen, K., & Amin, M. O. (2021). Faculty's and students' perceptions of online learning during COVID-19. *International Journal of Distance Education Technologies*, 19(1), 1–16. <https://doi.org/10.4018/IJDET.20210101.oa1>

Alvarez, A. V. (2020). The phenomenon of learning at a distance through emergency remote teaching amidst the pandemic crisis. *Asian Journal of Distance Education*, 15(1), 144–153. <http://asianjde.org/ojs/index.php/AsianJDE/article/view/451>

Cahapay, M. B. (2020). Rethinking education in the new normal post-COVID-19 era: A curriculum studies perspective. *Aquademia*, 4(2), Article ep20018. <https://doi.org/10.29333/aquademia/8315>

Computers & Education. (2024). Meta-analysis on information processing and digital learning effectiveness. Elsevier. [Incomplete DOI provided]

Crawford, J., Butler-Henderson, K., Rudolph, J., Malkawi, B., Glowatz, M., Burton, R., Magni, P., & Lam, S. (2020). COVID-19: 20 countries' higher education intra-period digital pedagogy responses. *Journal of Applied Learning & Teaching*, 3(1), 1–20. <https://doi.org/10.37074/jalt.2020.3.1.7>

De Guzman, M. A., & Montalbo, M. C. (2021). The digital divide in education: A case study of public and private high school students in the Philippines. *International Journal of Educational Management and Development Studies*, 2(1), 15–29. <https://doi.org/10.53378/345897>

Department of Education. (2010). Guidelines on strengthening ICT policies and programs in basic education (DepEd Order No. 78, s. 2010). <https://www.deped.gov.ph/2010/10/28/do-78-s-2010-guidelines-on-strengthening-ict-policies-and-programs-in-basic-education/>

Department of Education. (2018). Basic education enrollment policy (DepEd Order No. 3, s. 2018). <https://www.deped.gov.ph/2018/02/01/do-3-s-2018-basic-education-enrollment-policy/>

Department of Education. (2024). DepEd DigiEd 2028 initiative. <https://www.deped.gov.ph>

Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*, 49(1), 5–22. <https://doi.org/10.1177/0047239520934018>

Frontiers in Education. (2023). Digital equity in 21st-century education. Frontiers Media SA. [Incomplete DOI provided]

Morallos, A., & Carreon, J. M. (2022). Online learning experiences of senior high school students in Cebu during the COVID-19 pandemic. *Philippine Social Science Journal*, 5(2), 55–66. <https://doi.org/10.52006/main.v5i2.442>

Nguyen, T., Netto, C. L. M., Wilkins, J. F., Bröker, P., Vargas, E. E., Sealton, C. D., ... Palen, L.-A. (2021). Insights into students' experiences and perceptions of remote learning methods: From the COVID-19 pandemic to post-pandemic. *Education and Information Technologies*, 26, 7305–7325. <https://doi.org/10.1007/s10639-021-10505-2>

OECD. (2020). Education responses to COVID-19: Embracing digital learning and online collaboration. <https://www.oecd.org/coronavirus/policy-responses/>

Pacaol, J. C., Tan, J. M., & Alquizalas, M. A. (2021). Challenges in distance learning modality: Voices of college students in a Philippine state university. *International Journal of Academic Multidisciplinary Research*, 5(3), 118–126. <https://doi.org/10.5281/zenodo.4587633>

Pokhrel, S., & Chhetri, R. (2021). A literature review on the impact of COVID-19 pandemic on teaching and learning. *Higher Education for the Future*, 8(1), 133–141. <https://doi.org/10.1177/2347631120983481>

Republic Act No. 10929. (2017). Free Internet Access in Public Places Act. <https://www.officialgazette.gov.ph/2017/08/02/republic-act-no-10929/>

Siemens, G. (2005). Connectivism: A learning theory for the digital age. *International Journal of Instructional Technology and Distance Learning*, 2(1), 3–10.

Tria, J. Z. (2020). The COVID-19 pandemic through the lens of education in the Philippines: The new normal. *International Journal of Pedagogical Development and Lifelong Learning*, 1(1), 1–4. <https://doi.org/10.30935/ijpdll/8311>

Tumabiene, R. A., & Echavez-Samson, R. (2023). Digital inequality and academic performance: A study of Cebu-based higher education students. *Journal of Educational Policy and Technology*, 4(1), 21–35. <https://doi.org/10.54345/jept.v4i1.113>

UNESCO. (2021). Global education monitoring report 2021: Non-state actors in education – Who chooses? Who loses? <https://unesdoc.unesco.org/ark:/48223/pf0000379875>

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2021). Unified theory of acceptance and use of technology: A review and roadmap. *Journal of the Association for Information Systems*, 22(1), 4–45. <https://doi.org/10.17705/1jais.00636>

World Bank. (2022). Remote learning during COVID-19: Lessons from today, principles for tomorrow. <https://www.worldbank.org/en/topic/edutech/publication/remote-learning-during-covid-19-lessons-from-today-principles-for-tomorrow>