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The Impact of Digital Learning Competence on Academic Self-Efficacy of Junior High School Students in Polanco II District, Schools Division of Zamboanga Del Norte

Jade Rosarie G. Tina-An; MAEM; Leo C. Naparota, PhD

ABSTRACT: This study aimed to assess the digital learning competence and its influence on the academic self-efficacy of Junior High School students in Polanco II District, Schools Division of Zamboanga del Norte, during the School Year 2025–2026. Two hundred fifty (250) JHS students served as the respondents. Survey and descriptive-correlational research methods were employed. weighted mean, Standard Deviation, , and Spearman Rank Order Correlation Coefficient (Spearman rho) were the statistical tools used with JAMOVI as the statistical software. The respondents reported an overall high level of digital learning competence. Competence was highest in peer management and cognitive processing, indicating strong collaborative and metacognitive skills. However, lower scores were noted in technology use and digital reading, revealing gaps in critical information evaluation and strategic digital literacy. Significant variability in scores, especially in technology use, suggested unequal competence levels within the sample. The respondents perceived a generally high level of academic self-efficacy. Confidence was highest in project execution, social support, and exam composure. Notable areas of lower confidence included understanding English-language textbooks, managing academic tasks amidst domestic chores, and handling complex or unexpected academic challenges. A statistically significant, moderate positive correlation (rho = 0.36, $p < .001$) was found between students perceived digital learning competence and their academic self-efficacy. Based on the findings, the author recommends that the Schools Division Office, through HRD and school heads, implement a focused digital literacy program that strengthens critical technology use and digital reading skills beyond basic operations. Schools should also ensure equitable access to devices, internet connectivity, and learning hubs, especially for students from low-income families, while building partnerships with community and religious groups to support students' resilience and self-efficacy. Teachers, in turn, should use group-based, technology-integrated activities to develop weaker skills such as information evaluation and digital content creation, while explicitly teaching metacognitive and critical digital reading strategies. They should also provide scaffolding, workload support, and clear help-seeking opportunities to promote a more proactive and strategic academic mindset.

Keywords: *digital learning competence, academic self-efficacy, JHS students*

I. Introduction

In the 21st century, education has become increasingly shaped by digital technologies, transforming how students access information, participate in instruction, and demonstrate learning. In the Philippine context, this shift is reflected in the Department of Education's continued integration of Information and Communications Technology and in the MATATAG Curriculum, which identifies digital literacy as a core 21st-century skill. Within this landscape, two variables have become especially relevant: digital learning competence and academic self-efficacy. Yang et al. (2021) described digital learning competence as a multidimensional construct that

includes technology use, cognitive processing, digital reading skills, time management, peer management, and will management. In contrast, Dullas (2018) defined academic self-efficacy as students' belief in their ability to accomplish academic tasks and meet educational demands successfully. Together, these variables represent the skill-based and belief-based foundations of effective learning in digital environments.

These variables are important because access to technology alone does not automatically guarantee positive educational outcomes. Learners need not only digital tools but also the competence to use them meaningfully and the confidence to apply them in academic tasks. Yokoyama (2019) emphasized that academic self-efficacy significantly influences students' motivation, persistence, resilience, and performance, particularly in challenging learning situations. Similarly, Getenet (2024) noted that digital competence contributes to academic performance, learner autonomy, and readiness for lifelong learning. For Junior High School students, these variables are especially essential because they support independent learning, strategic engagement, and successful adaptation to increasingly technology-supported instruction.

The relationship between digital learning competence and academic self-efficacy is increasingly recognized as interconnected and mutually reinforcing. Luo et al. (2025) found that digital competence strengthens students' academic self-efficacy by improving confidence and self-regulation, creating a positive feedback loop in digital learning environments. Likewise, Javier-Aliaga and Silva-Neyra (2024) reported a significant positive association between digital competence and academic self-efficacy, showing that students who are more capable in using digital tools also tend to feel more confident in meeting academic demands. This suggests that competence in navigating digital environments and confidence in performing academic tasks work together in shaping students' engagement, persistence, and overall learning success.

Despite growing evidence on these variables, a clear research gap remains. Much of the existing literature has focused on higher education or broad learner populations, leaving Junior High School students in localized Philippine settings underexplored. Luo et al. (2025) highlighted persistent limitations in the literature, including geographical bias, overreliance on cross-sectional methods, and limited attention to mediating mechanisms. At the local level, Taruc and Bagalanon (2025) found that although the SILVERTEK Learning Management System was generally well implemented in Sibutad District, its utilization did not significantly improve pupil academic achievement. This suggests that the presence of digital systems alone may not be enough to produce better learner outcomes. Hence, there is a need to examine the relationship between digital learning competence and academic self-efficacy among Junior High School students in Polanco II District to provide localized evidence that can guide more responsive digital literacy programs and instructional practices.

II. Literature review

Academic Self-Efficacy

Academic self-efficacy has long been recognized as a crucial determinant of students' academic behavior and learning outcomes. Schunk and DiBenedetto (2016) explained that students with high academic self-efficacy are more likely to persist in challenging tasks, regulate their learning processes effectively, and employ adaptive learning strategies. Their work emphasizes the role of self-belief in sustaining effort and enhancing academic performance. Honicke and Broadbent (2016) conducted a meta-analysis and demonstrated that academic self-efficacy is a significant predictor of academic achievement. Their findings revealed that this relationship is strengthened when self-efficacy is supported by effective study habits and self-regulated learning behaviors.

Digital Learning Competence

Digital learning competence has emerged as a foundational component of modern education, shaping how learners interact with digital information and tools. Carretero et al. (2017) emphasized that digital competence enables students to communicate, solve problems, and construct knowledge effectively using digital technologies, as outlined in the European Commission's DigComp framework. Ghomi and Redecker (2019) explained that

digital learning competence encompasses information literacy, digital content creation, and technological problem-solving. These competencies are essential for meaningful participation in contemporary learning environments. Recent literature highlights the impact of digital competence on learning outcomes. Siddiq and Hatlevik (2019) found that students with higher digital competence demonstrate better academic performance due to their ability to manage digital information and strategically use technology for school-related tasks.

Technology Use

Technology use is a central dimension of digital learning competence, influencing how students access, organize, and produce academic content. Ng (2016) emphasized that effective technology use allows learners to engage meaningfully with digital tools, thereby improving learning efficiency and academic task performance. Similarly, Moreno-Guerrero and Martínez-Heredia (2020) found that students who use digital technologies frequently and skillfully demonstrate higher academic engagement and adaptability. Their findings highlight technology use as a foundational skill in digitally enriched classrooms.

Cognitive Processing

Cognitive processing in digital learning refers to students' ability to analyze, interpret, and apply information within technology mediated environments. Mayer (2017) explained that digital learning often requires higher cognitive demand, as learners must manage multimedia content while engaging in problem-solving and decision-making processes. Azevedo and Moos (2016) found that students with strong cognitive-processing skills are better able to self-regulate and integrate information in online learning environments. Their study underscores the importance of cognitive processing for deep and meaningful learning.

Digital Reading Skills

Digital reading skills have become increasingly important as learning materials shift from print to digital formats. Delgado et al. (2018) found that reading digital texts requires additional skills such as navigation, evaluation of hyperlinks, and screen-based comprehension strategies. Clinton (2019) showed that digital reading proficiency significantly influences comprehension outcomes, particularly when learners must synthesize information from multiple digital sources. These findings highlight the critical role of digital reading skills in academic success.

Time Management

Time management is a key factor in academic success, especially in digital learning environments where distractions are prevalent. Panadero and Alonso-Tapia (2017) emphasized that effective time management enables students to plan, prioritize, and monitor their learning activities, leading to improved academic performance. Similarly, Broadbent and Fuller-Tyszkiewicz (2018) found that students with strong time-management strategies perform better in online learning contexts. Their findings suggest that efficient task completion and consistent study habits are essential components of digital learning competence.

Peer Management

Peer management refers to students' ability to collaborate and communicate effectively with classmates in digital learning settings. Dillenbourg and Kirschner (2016) highlighted that peer interaction in digital environments supports shared problem solving and the co-construction of knowledge. In line with this, Chan and van Aalst (2020) found that effective peer collaboration facilitated by digital tools enhances learning outcomes. Their study emphasized accountability, cooperation, and meaningful academic dialogue as key benefits of strong peer management.

Will Management

Will management involve students' capacity to sustain motivation, persistence, and self-control during academic tasks, particularly in autonomous learning environments. Duckworth and Gross (2016) described will management as closely related to grit and self-regulation, which are essential for long-term academic effort. Wolters and Hussain (2015) found that students with strong will-management skills demonstrate greater perseverance and are more successful in completing academic tasks. Their findings highlight will management as a core psychological component supporting effective digital learning.

Conceptual framework

The conceptual framework is presented in Figure 1. The study assessed six key indicators of digital learning competence namely: technology use, cognitive processing, digital reading skills, time management, peer management, and will management, using an adopted instrument from Yang et al. (2021) composed of forty-one (41) items. These indicators collectively represented the independent variables measuring students' overall digital learning competence. Meanwhile, the dependent variable, academic self-efficacy, was evaluated using a forty-item (40) standardized scale adopted from Gafoor and Ashraf (2006).

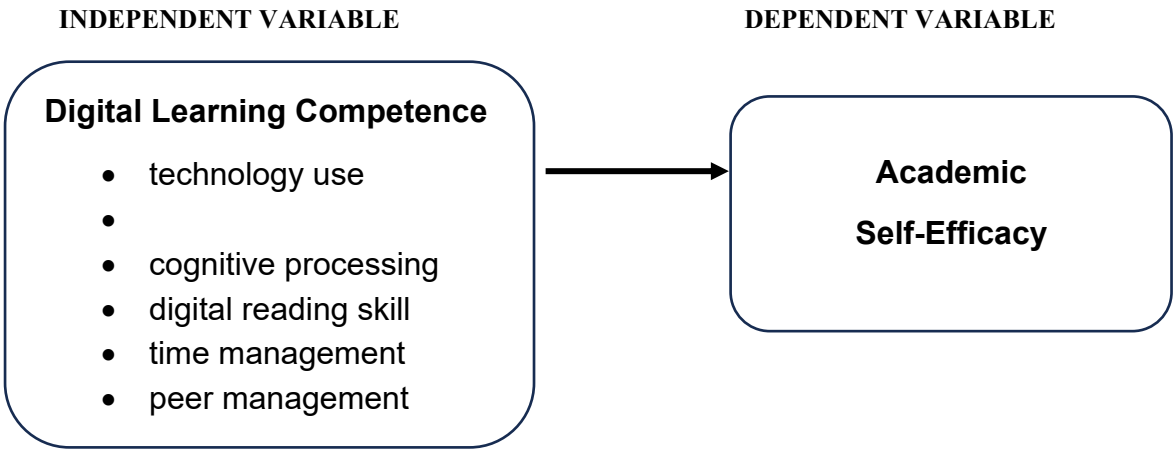

Figure 1. Conceptual framework of the study

Figure 1: The framework reflects a correlation between digital learning competence and academic self-efficacy. The study intends to examine the influence of digital learning competence and academic self-efficacy.

Statement of the Problem

This study aimed to assess the digital learning competence and its influence on the academic self-efficacy of Junior High School students in Polanco II District, Schools Division of Zamboanga del Norte, during the School Year 2025–2026.

Specifically, it sought to answer the following questions:

1. What is the respondents' perceived level of digital learning competence in terms of:
    1.1. technology use;
    1.2. cognitive processing;
    1.3. digital reading skill;
    1.4. time management;
    1.5. peer management; and

1.6. will management?

2. What is the respondents' perceived level of academic self-efficacy?

3. Is there a significant relationship between the perceived level of digital learning competence and perceived level of academic self-efficacy?

Hypothesis

1. There is no significant relationship between the perceived level of digital learning competence and perceived level of academic self-efficacy.

Scope and limitations of the study

This study focuses on evaluating the digital learning competence of two hundred fifty (250) Junior High School students from Grades 7 to 10 and examining its influence on their academic self-efficacy in the Polanco II District, Schools Division of Zamboanga del Norte, for School Year 2025–2026. The Polanco II District consists of four secondary schools: Silawe National High School, Sianib National High School, Bethlehem Integrated School, and San Pedro National High School. However, only three schools were included in the study because Bethlehem Integrated School does not offer a complete Junior High School program.

Research methodology

The study employed the survey method and a descriptive-correlational research design. Data on digital learning competence and academic self-efficacy were gathered through a questionnaire administered to the respondents. According to Check and Schutt (2012), survey research is a systematic process of obtaining information from a group of individuals through questionnaires or interviews in order to assess their attitudes, beliefs, behaviors, and characteristics. They noted that surveys enable researchers to collect substantial amounts of data efficiently and are commonly used together with experimental and observational approaches to support the validity of findings. Meanwhile, Creswell and Guetterman (2019) explained that correlational research is a systematic, non-experimental approach used to determine the relationship between variables without manipulating them. In this study, the researcher measured the variables and analyzed the statistical relationship between digital learning competence and academic self-efficacy while controlling for the possible influence of extraneous factors.

The study was conducted in the Polanco II District, Schools Division of Zamboanga del Norte, Philippines. The target population of this study was the seven hundred fifty-eight (758) Junior High School students enrolled in Polanco II District which consisted of three (3) public secondary schools.

Research Instrument

The questionnaire used in the study consisted of two parts: Part I: digital learning competence adopted from Yang et al. (2021), with six indicators, namely: technology use; cognitive processing; digital reading skill; time management; peer management; and will management; Part II: students' academic self-efficacy adopted from Gafoor and Ashraf (2006), assessed through a standardized forty-item instrument designed to measure learners' confidence in performing academic tasks.

Scoring Procedure

Digital Learning Competence

Scale	Range of Values	Description	Interpretation
5	4.21-5.00	Strongly Agree	Very High
4	3.41-4.20	Agree	High
3	2.61-3.40	Somewhat Agree	Average
2	1.81-2.60	Disagree	Low
1	1.00-1.80	Strongly Disagree	Very Low

Academic Self-Efficacy

Scale	Range of Values	Description	Interpretation
5	4.21-5.00	Strongly Agree	Very High
4	3.41-4.20	Agree	High
3	2.61-3.40	Somewhat Agree	Average
2	1.81-2.60	Disagree	Low
1	1.00-1.80	Strongly Disagree	Very Low

Data presentation and analysis

The data are presented in accordance with the statement of the problems of the current study. The study aimed to answer the following questions:

1. What is the respondents' perceived level of digital learning competence in terms of:

3.1. technology use;

3.2. cognitive processing;

3.3. digital reading skill;

3.4. time management;

3.5. peer management; and

3.6. will management?

Table 1

Perceived Level of Digital Learning Competence in Terms of Technology Use

A. Technology Use	AWV	SD	Description	Interpretation
1. I can use the map to plan the travel routes before going to strange place.	3.42	1.38	Agree	High
2. I can use the road sign to find the destination in a strange place.	3.67	1.19	Agree	High
3. I can check the instructions to operate correctly for unfamiliar home appliances.	3.88	1.14	Agree	High

4. I can use the digital tools to create multimedia works (such as pictures, animation, video, etc.)	3.88	1.19	Agree	High
5. I can catch the key points of the video or audio information	3.40	1.09	Somewhat Agree	Average
6. I can complete the learning tasks assigned by teacher by using various resources comprehensively, such as teaching materials, supplementary materials, and network resources	3.86	1.07	Agree	High
7. I can choose the appropriate means of communication to share my own multimedia works with my classmates, such as through QQ, E-mail, U-disk, etc.	3.24	1.26	Somewhat Agree	Average
8. I will evaluate, modify and improve my own multimedia works.	3.52	1.04	Agree	High
9. I will compare the authenticity and reliability of the information from newspaper, broadcast, network, etc.	3.28	1.26	Somewhat Agree	Average
Overall	**3.57**	**1.13**	**Agree**	**High**

AWV=Average Weighted Value, SD= Standard Deviation

Table 1 reflects the perceived level of digital learning competence in terms of technology use. The data indicates a generally high perceived level of digital learning competence in technology use among respondents, with an overall mean of 3.57 (High). Students reported the highest competence in operational and creative tasks, such as using digital tools to create multimedia works (AWV=3.88) and following instructions to operate correctly for unfamiliar home appliances (AWV=3.88). However, competencies requiring critical evaluation and selective communication showed lower, average ratings, notably in comparing the authenticity and reliability of the information from various sources (AWV=3.28) and choosing appropriate means of communication platforms for sharing multimedia works (AWV=3.24). This pattern aligns with findings in the Philippine context where students, despite being digital natives, often demonstrate stronger skills in consumption and basic creation than in critical information literacy and strategic digital communication (Albino, 2023). The high standard deviations (mostly >1.0) across items further suggest significant variance in competence levels within the sample, likely reflecting the socioeconomic and access disparities previously identified in the profile data. This underscores that while many students are functionally capable, the development of higher-order digital literacy, essential for academic self-efficacy in a technology-mediated learning environment, remains uneven and is a critical area for educational intervention (Barrot et al., 2021).

Table 2

Perceived Level of Digital Learning Competence in Terms of Cognitive Processing

B. Cognitive Processing	**AWV**	**SD**	**Description**	**Interpretation**
1. I can find main points that need to be remembered from the teacher's lecture or presentation.	3.75	1.05	Agree	High
2. I can find important information from the class discussion.	3.94	0.99	Agree	High

3. I will combine teacher's lecture, textbook and class discussion to better understand the learning content.	3.74	1.03	Agree	High
4. I will link the new learning content with the knowledge that has already been mastered.	3.70	1.05	Agree	High
5. I will list the important points before the exam, and try the best to remember them.	4.15	1.01	Agree	High
6. I often review the contents of the lesson after class.	3.78	1.06	Agree	High
7. I will often browse the textbooks and notes, and find out the most important content.	3.76	1.09	Agree	High
Overall	**3.83**	**0.91**	**Agree**	**High**

AWV=Average Weighted Value, SD= Standard Deviation

Table 2 discloses the perceived level of digital learning competence in terms of cognitive processing. The data reveal a high perceived level of digital learning competence in cognitive processing among the respondents, with an overall mean of 3.83 (High). Students reported the strongest competence in identifying important information from class discussions (AWV=3.94) and, most notably, in listing important points before the exam and trying their best to remember them (AWV=4.15). This pattern suggests that students are highly confident in their use of fundamental metacognitive and knowledge-organizing strategies within the learning process. The consistently high ratings across all items, coupled with relatively lower standard deviations compared to the technology use dimension, indicate a more uniform and confident mastery of these cognitive skills across the diverse sample. This aligns with observations in the Philippine educational context, where students often develop strong rote memorization and review habits due to a traditionally examination-focused culture, yet these very strategies form a critical foundation for academic self-efficacy (Bernardo & Mendoza, 2020). However, while these cognitive strategies are essential, their efficacy in a digital learning environment is contingent on the ability to apply them to information sourced from digital platforms, a competency area where students showed more variability and lower confidence in the previous table. The high cognitive processing confidence, therefore, may represent a significant internal asset that educators can leverage. By intentionally bridging these strong cognitive strategies with the development of more critical digital information literacy skills, teachers can potentially enhance overall academic self-efficacy, enabling students to more effectively navigate and master technology-mediated learning (Barrot et al., 2021).

Table 3

Perceived Level of Digital Learning Competence in Terms of Digital Reading

C. Digital Reading	**AWV**	**SD**	**Description**	**Interpretation**
1. I will summarize the points and the structure of the article by drawing pictures or tables after reading.	3.63	1.15	Agree	High
2. I get used to taking notes when I read books, newspaper and magazines.	3.60	1.19	Agree	High
3. When I read the newspaper and magazine, I can transfer the title of the	3.39	1.14	Somewhat Agree	Average

article into questions, in order to guide the following reading.				
4. When I learn a new article, I will read the after-class exercises previously, and then I read the article.	3.38	1.17	Somewhat Agree	Average
5. After reading the text, I will try to answer the after-class exercises.	3.59	1.11	Agree	High
6. I will regularly review the learning materials that I've seen before after reading.	3.61	1.11	Agree	High
7. When I read the article, I can find out the keywords, details and the main purpose of it.	3.72	1.04	Agree	High
Overall	**3.56**	**0.91**	**Agree**	**High**

AWV=Average Weighted Value, SD= Standard Deviation

Table 3 exhibits the perceived level of digital learning competence in terms of digital reading. The perceived level of digital reading competence among respondents is high overall (AWV=3.56), yet the data reveal a distinct gap between basic comprehension skills and more advanced, self-regulated reading strategies. Students report high competence in fundamental tasks such as identifying keywords, details, and main purposes (AWV=3.72), summarizing the points and the structure of the article by drawing pictures or tables after reading (AWV=3.63), and reviewing the learning materials after reading them (AWV=3.61). However, competencies requiring proactive and strategic engagement with texts, such as turning titles of the article into guiding questions (AWV=3.39) or previewing before reading (AWV=3.38), are rated only at an average level. This pattern aligns with findings from analyses of the Philippines' participation in the Programme for International Student Assessment (PISA, 2018), which indicate that Filipino high school students' awareness and use of metacognitive reading strategies do not necessarily correspond with higher reading proficiency in English. In a nationally representative sample of 15-year-old learners, the strategies that students most frequently perceived as useful were not the ones most strongly associated with their actual reading achievement, suggesting gaps in strategic engagement and reflective processing of texts that are essential for deeper comprehension and academic learning (Bernardo & Mante-Estacio, 2023). The variance in skills underscores a critical area for pedagogical intervention, as the effective synthesis and evaluation of digital information are directly linked to building academic self-efficacy, particularly in a curriculum that increasingly relies on online resources and self-directed learning modules (Barrot et al., 2021). Therefore, enhancing these strategic digital reading competencies is vital to empowering students to independently manage and master complex digital academic content.

Table 4

Perceived Level of Digital Learning Competence in Terms of Peer Management

D. Peer Management	**AWV**	**SD**	**Description**	**Interpretation**
1. I can put forward my opinion to my classmates in the group learning.	3.89	1.07	Agree	High
2. I can actively coordinate to reach a consensus when the dispute appears in the group discussion.	3.88	0.98	Agree	High
3. I can make clear my role and responsibilities when I am in the group activities.	4.12	0.95	Agree	High

4. I can listen to my classmates in the group learning.	4.23	1.00	Strongly Agree	Very High
5. I can always have some ways to make my classmates talk freely in the group learning.	4.05	0.99	Agree	High
6. I will share the information collected by myself with my classmates in the study.	4.02	1.02	Agree	High
Overall	**4.03**	**0.84**	**Agree**	**High**

AWV=Average Weighted Value, SD= Standard Deviation

Table 4 conveys the perceived level of digital learning competence in terms of peer management. The data indicate a high perceived level of digital learning competence in peer management, with an overall mean of 4.03, the highest among all competence dimensions. Students reported the strongest competencies in listening to classmates in the group learning (AWV=4.23), understanding their role and responsibilities in group activities (AWV=4.12), and employing strategies to encourage open discussion in the group learning (AWV=4.05). This reflects a strong confidence in collaborative and interpersonal skills essential for technology-mediated group work. In the Philippine context, this strength aligns with the deeply embedded cultural value of bayanihan (collective effort) and a strong communal orientation, which facilitates cooperation and shared responsibility in learning environments (Bernardo, 2023). These high ratings in social management skills are particularly significant, as effective peer collaboration is a known moderator that can enhance both engagement and self-efficacy in digital learning settings, especially when students face technical or resource constraints (Barrot et al., 2021). The relatively lower standard deviations suggest a more uniform confidence in these social competencies across the diverse socioeconomic sample compared to more technical or cognitive skills. This strong foundation in peer management represents a critical asset; educators can strategically leverage these innate collaborative strengths to design group-based digital learning activities that scaffold the development of other, less confident competencies, such as critical digital reading or information evaluation, thereby fostering a more holistic and supportive environment for building academic self-efficacy.

Table 5

Perceived Level of Digital Learning Competence in Terms of Time Management

E. Time Management	**AWV**	**SD**	**Description**	**Interpretation**
1. I will set a deadline for my learning task.	3.66	1.21	Agree	High
2. I will check the completeness of the task in contrast to the plan when I finish the task.	3.82	1.13	Agree	High
3. I have a plan for the learning tasks that I have to finish every week.	3.67	1.18	Agree	High
4. I have both short-term and long-term plan for my own study.	3.70	1.16	Agree	High
5. I will determine the sequence of tasks based on the importance and urgency of the task when drafting the task plan.	3.71	1.02	Agree	High
6. I can finish the learning task arranged by teacher on time.	3.75	1.11	Agree	High
Overall	**3.72**	**0.96**	**Agree**	**High**

AWV=Average Weighted Value, SD= Standard Deviation

Table 5 manifests the perceived level of digital learning competence in terms of time management. The data indicate a high perceived level of competence in time management among respondents, with an overall mean of 3.72. Students report the strongest confidence in checking task completeness against plans (AWV=3.82) and finishing teacher-assigned tasks on time (AWV=3.75), reflecting a responsive and structured approach to academic deadlines. This aligns with findings in Philippine distance learning research, where the asynchronous nature of online tasks required students to develop self-regulation strategies such as time management and independent scheduling to complete academic requirements (Barrot et al., 2021). However, the slightly lower scores on setting personal deadlines for learning task (AWV=3.66) and maintaining weekly plans (AWV=3.67), coupled with standard deviations consistently above 1.0, suggest variability in the proactive and independent planning aspects of time management. This pattern may indicate that while students are competent in managing assigned tasks within given frameworks, a skill reinforced by structured school requirements, the autonomous, strategic planning essential for sustained self-directed digital learning is less uniformly developed. In the context of blended and online learning, where teacher oversight is often reduced, this distinction is critical. As noted by Barrot et al. (2021), effective time management is a key predictor of academic self-efficacy in digital environments, as it directly influences a student's sense of control and ability to navigate multiple learning platforms and deadlines. Strengthening these proactive planning competencies is therefore vital to translating digital access and technical skill into consistent academic performance and confidence.

Table 6
Perceived Level of Digital Learning Competence in Terms of Will Management

F. Will Management	**AWV**	**SD**	**Description**	**Interpretation**
1. I think that as long as you spare no effort, I can acquire the knowledge.	3.04	1.31	Somewhat Agree	Average
2. I think that as long as the method is appropriate, I can acquire the knowledge.	3.73	0.99	Agree	High
3. As for me, achieving excellent scores makes me feel happiest.	4.33	0.96	Strongly Agree	Very High
4. I'm interested in the learning content of the school.	4.18	1.02	Agree	High
5. I believe that I can get a good result in any course *	3.78	1.11	Agree	High
6. I can recognize my own advantages and disadvantages *	3.72	1.19	Agree	High
Overall	**3.79**	**1.00**	**Agree**	**High**

AWV=Average Weighted Value, SD= Standard Deviation

Table 6 illustrates the perceived level of digital learning competence in terms of will management. The data reveal a complex motivational profile among respondents, with an overall high perceived competence (AWV=3.79) marked by significant internal contrasts. Students demonstrate very high external motivation and interest, strongly agreeing that achieving excellent scores brings the greatest happiness (AWV=4.33) and expressing high interest in school learning content (AWV=4.18). This aligns with the documented exam-oriented and grade-focused culture prevalent in Philippine secondary education (Bernardo & Mendoza, 2020). However, a critical divergence appears in their belief in effort alone, with the statement "as long as you spare no effort, I can acquire the knowledge" receiving only an average rating (AWV=3.04), the lowest score across all digital competence subscales. This suggests that while students are highly grade-motivated and confident when appropriate methods are used (AWV=3.73), a significant portion may harbor underlying doubts about the direct efficacy of sheer perseverance, possibly reflecting experiences where effort did not yield expected results due to external constraints like limited digital access or inadequate learning support. This pattern underscores a potential vulnerability in their academic self-efficacy, as a strong belief in effort is a core component of resilient self-

regulation (Barrot et al., 2021). The findings imply that in the Philippine context, particularly in resource-constrained settings, fostering digital learning competence must be coupled with strategies that strengthen students' volitional beliefs, ensuring their high interest and performance goals are supported by a strong conviction in their own agency and the effectiveness of their strategies.

Table 7

Summary of the Perceived Level of Digital Learning Competence

	AWV	SD	Description	Interpretation
A. Technology Use	3.57	1.13	Agree	High
B. Cognitive Processing	3.83	0.91	Agree	High
C. Digital Reading	3.56	0.91	Agree	High
D. Peer Management	4.03	0.84	Agree	High
E. Time Management	3.72	0.96	Agree	High
F. Will Management	3.79	1.00	Agree	High
Overall	**3.75**	**1.02**	**Agree**	**High**

AWV=Average Weighted Value, SD= Standard Deviation

Table 7summarizes the perceived level of digital learning competence. The summary data indicate that students perceive an overall high level of digital learning competence (AWV=3.75), yet reveal a critical hierarchy among its dimensions. Notably, peer management (AWV=4.03) and cognitive processing (AWV=3.83) are the strongest competencies, reflecting students' confidence in collaborative, metacognitive, and organizational strategies, skills often reinforced in the Philippine classroom culture that values communal effort (bayanihan) and structured academic review (Bernardo, 2023; Barrot et al., 2021). In contrast, technology use (AWV=3.57) and digital reading (AWV=3.56) scored the lowest, underscoring a persistent gap in the more technical and critical literacy aspects of digital competence. This pattern aligns with nationwide findings that while Filipino students are adept at social and cognitive learning strategies, many still struggle with higher-order digital skills such as information evaluation, strategic tool use, and critical navigation of digital texts, competencies essential for self-directed online learning (Albino, 2023). The relatively high standard deviations, particularly in technology use (SD=1.13) and will management (SD=1.00), further suggest significant inequality in competence levels within the sample, likely reflecting the socioeconomic disparities previously identified. Therefore, while the overall perception is positive, the development of academic self-efficacy in digital environments may be unevenly experienced; students' strong social and cognitive foundations must be more intentionally leveraged by educators to scaffold and strengthen their technical and critical digital proficiencies, ensuring a more comprehensive and equitable digital learning competence.

2. What is the respondents' perceived level of academic self-efficacy?

Table 8

Perceived Level of Academic Self-Efficacy

Statements	AWV	SD	Description	Interpretation
1. Irrespective of the subject, I am competent in learning.	3.84	1.07	Agree	High
2. I can read and understand my text books well.	3.82	0.92	Agree	High
3. I sense that I am quick to pick the points from what I read	3.54	0.96	Agree	High

4. I feel that I have no ability to keep things unforgotten.	3.46	1.12	Agree	High
5. I can do my projects well.	4.02	1.04	Agree	High
6. I can manage time efficiently for learning.	3.87	0.99	Agree	High
7. I can arrange the help of my teachers in learning.	3.69	1.05	Agree	High
8. I can find the necessary sources for my study.	3.74	1.07	Agree	High
9. I can arrange help of my peers for my learning whenever I need it.	3.68	1.01	Agree	High
10. I fail to set higher goals in my study.	3.51	1.18	Agree	High
11. I can usually find out quite a few solutions when I confront with problems in my study.	3.78	1.15	Agree	High
12. I can express ideas well while attending examinations.	3.64	1.10	Agree	High
13. It is difficult for me to read and understand the textbooks in English language.	3.23	1.30	Somewhat Agree	Average
14. During examinations, I can recollect what I have learned.	3.59	1.09	Agree	High
15 Often I fail to comprehend the actual meaning of what I study.	3.45	0.95	Agree	High
16. If taught, I can prepare my class notes neatly.	3.46	1.06	Agree	High
17. I fail to find out time for learning in the midst of sundry chores.	3.36	1.07	Somewhat Agree	Average
18. I can arrange the resources of my study from my relatives, neighbours, etc.	3.59	1.08	Agree	High
19. I am assured that I have a few friends who would be helpful in my study.	3.97	1.02	Agree	High
20. I may not clarify doubts from my teachers while in class, even if I reach higher classes.	3.62	1.00	Agree	High
21. I can accomplish my aims in learning.	3.67	1.03	Agree	High
22. I can answer the essay type questions well.	3.57	1.04	Agree	High
23. I experience that I am weak in understanding the classes of my teachers.	3.44	1.13	Agree	High
24. I can develop the reading skill required to learn school subjects.	3.77	1.08	Agree	High
25. When I study a new concept, I can't recall the related knowledge from the earlier classes.	3.64	0.99	Agree	High
26. I can utilize the available library facility for my study.	3.43	1.13	Agree	High
27. I observe that I fail to prepare my seminars and assignments in time.	3.38	1.19	Somewhat Agree	Average
28. If I miss some classes for some reason, I can compensate the loss fairly well.	3.49	1.13	Agree	High
29. I consider that I fail to develop a healthy relationship with my teachers.	3.39	1.18	Somewhat Agree	Average

30. I am confident that I can perform well in competitive examinations.	3.57	1.11	Agree	High
31. I can deal efficiently with the unexpected problems in my study.	3.55	1.06	Agree	High
32. I can be calm at time of exam as I am conscious of my ability to learn.	3.89	0.97	Agree	High
33. I can complete the homework myself without any help from guidebooks, previous notes etc.	3.61	1.17	Agree	High
34. I can usually handle the disturbing situations in the study.	3.58	1.10	Agree	High
35. If a sudden test is conducted for us without prior notice, I can answer it well.	3.56	1.11	Agree	High
36. If I try, I can become one of the good grade holders.	3.76	0.96	Agree	High
37. I can answer the questions which teachers ask me.	3.56	1.02	Agree	High
38. I can score well in the short answer type questions.	3.61	1.01	Agree	High
39. I can accomplish challenging tasks and problems in my study.	3.57	0.96	Agree	High
40. However, twisted the question is I can answer them.	3.38	1.07	Somewhat Agree	Average
Overall	**3.61**	**0.81**	**Agree**	**High**

AWV=Average Weighted Value, SD= Standard Deviation

Table 8 illuminates the perceived level of academic self-efficacy. The data reveal that students in the Polanco II District perceive a generally high overall level of academic self-efficacy (Overall AWV=3.61). Their confidence is strongest in areas of social support and project execution, such as having helpful friends for study (AWV=3.97) and doing projects well (AWV=4.02), as well as maintaining calm during exams due to perceived ability (AWV=3.89). However, significant areas of relative uncertainty are evident. The lowest-rated items pertain to comprehension of English-language textbooks (AWV=3.23), managing time amidst sundry chores (AWV=3.36), and handling twisted or complex questions (AWV=3.38). This pattern aligns with documented challenges in the Philippine educational context, where English proficiency remains a significant barrier to self-efficacy for many students outside of specialized curricula (Alieto et al., 2020), and where learners experience various difficulties such as limited learning resources and adjustments to distance learning, which affect their academic engagement (Marcial et al., 2023). The variance in scores, indicated by standard deviations often exceeding 1.0, points to a wide disparity in self-efficacy experiences within the student population. Critically, while students report confidence in specific tasks and social resources, their lower scores on items related to proactive help-seeking from teachers (e.g., clarifying doubts, developing healthy relationships) and managing unexpected academic challenges suggest a reactive rather than a strategic academic mindset. This profile underscores the need for pedagogical interventions that not only build content mastery but also explicitly develop strategic learning action and resilience, especially within the digital learning environments that mediate their education.

3. Is there a significant relationship between the perceived level of digital learning competence and perceived level of academic self-efficacy?

Table 17

Test of Relationship between the Levels of Digital Learning Competence and Academic Self-Efficacy

Variables Correlated	rho-value	p-value	Interpretation
Digital Learning Competence and Academic Self-Efficacy	0.36	< 0.001	Medium/Moderate Positive Correlation Significant

Table 17 displays the test of the relationship between the levels of digital learning competence and academic self-efficacy. When the dataset is subjected to the Spearman Rank-Order Correlation Coefficient, the result reveals that there exists a significant positive medium/moderate correlation between the levels of digital learning competence and academic self-efficacy. Thus, the null hypothesis is rejected. This finding substantiates the core hypothesis of the study, indicating that students who perceive themselves as more competent in using digital tools, managing online information, and collaborating in digital spaces also tend to report higher confidence in their overall academic capabilities. Within the Philippine context, this relationship underscores the critical role of digital literacy as an enabler of academic confidence, particularly in a post-pandemic educational landscape where blended and technology-mediated learning remains prevalent (Barrot et al., 2021). The moderate strength of the correlation suggests that while digital competence is an important contributing factor, academic self-efficacy is a multifaceted construct also influenced by other variables such as prior achievement, teacher support, and the psychosocial resources highlighted in earlier analyses (Bernardo & Mendoza, 2020). This aligns with national assessment data, such as the Programme for International Student Assessment (PISA), which links aspects of digital literacy to students' engagement and self-concept in learning (OECD, 2018, as cited in DepEd, 2019). Therefore, targeted interventions to systematically build students' digital learning competencies, especially in areas of critical evaluation and strategic use, are justified as a meaningful pathway to enhancing their academic self-efficacy, thereby fostering greater resilience and independent learning in the digital age.

III. Discussion

The findings of the study show that the respondents generally demonstrated a high level of digital learning competence, especially in peer management, cognitive processing, and will management. This suggests that the students are confident in collaborating with others, organizing and processing learning tasks, and maintaining motivation in their studies. However, technology use and digital reading emerged as the relatively weaker areas, indicating that although students are capable of using digital tools and engaging with digital texts, they are less confident in more advanced skills such as evaluating the credibility of online information and applying strategic reading techniques. In the same manner, the respondents also manifested a high level of academic self-efficacy, which means that they generally believe in their ability to perform academic tasks, complete projects, manage learning demands, and seek support from peers and teachers when needed. Nonetheless, some areas such as understanding English texts, dealing with difficult questions, and balancing academic work with other responsibilities appeared to be more challenging. Furthermore, the study established a significant positive relationship between digital learning competence and academic self-efficacy, implying that students who perceive themselves as more competent in digital learning also tend to have stronger confidence in their academic abilities. This means that improving students' digital learning competence, particularly in technology use and digital reading, may help strengthen their academic self-efficacy and better prepare them for success in digital and technology-mediated learning environments.

IV. Conclusion

In conclusion, the study established that the respondents possess a generally high level of digital learning competence and academic self-efficacy, indicating that they are adequately prepared to participate in technology-mediated learning. Their strengths in peer management, cognitive processing, and will management show that they are capable of working collaboratively, managing learning tasks, and sustaining motivation in their studies. At the same time, the relatively lower competence in technology use and digital reading suggests that students still need further enhancement in critical and strategic digital skills, particularly in evaluating information and engaging deeply with digital texts. The respondents' high academic self-efficacy further signifies that they have

confidence in their ability to accomplish academic tasks, although challenges remain in understanding English texts, handling difficult questions, and balancing study demands with other responsibilities. Most importantly, the significant positive relationship between digital learning competence and academic self-efficacy confirms that digital competence plays an important role in shaping students' confidence in their academic performance. Therefore, strengthening students' digital learning competence may serve as an essential means of further improving their academic self-efficacy and supporting their overall success in contemporary learning environments.

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