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A Comparison of Digital Literacy and Student Understanding in State and Private Schools: A Focus on Pancasila Education

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This study aims to analyse the influence of digital literacy skills on students' understanding of the subject of Pancasila Education, as well as to compare the dynamics between state and private schools in the city of Yogyakarta. Using a quantitative approach of the ex post facto type with a correlational research design, the study involved 60 Year 11 students from State Senior High School 3 and Muhammadiyah Senior High School 4 in Yogyakarta, selected through purposive sampling. Data were collected via a questionnaire and analysed using simple linear regression via SPSS version 31. The results indicate that digital literacy skills have a significant effect on students' learning comprehension (Sig. < 0.001). The coefficient of determination (R-squared) value of 0.405 indicates that digital literacy contributes 40.5% to the variation in understanding of Pancasila Education. Although there are differences in academic culture between state and private schools, digital literacy has proven to be a crucial cognitive tool in helping students filter information and construct knowledge independently. This finding emphasises the importance of strengthening digital ethics and culture within the curriculum to transform the use of technology from mere entertainment into a means of reinforcing critical and responsible national values.

Keywords: Digital Literacy, Student Understanding, Pancasila Education

ABSTRAK

Penelitian ini bertujuan menganalisis pengaruh kecakapan literasi digital terhadap pemahaman siswa pada mata pelajaran Pendidikan Pancasila, serta membandingkan dinamikanya di sekolah negeri dan swasta di Kota Yogyakarta. Menggunakan pendekatan kuantitatif jenis penelitian Ex Post Facto dengan desain penelitian korelasional, penelitian melibatkan 60 siswa kelas XI dari SMA Negeri 3 dan SMA Muhammadiyah 4 Yogyakarta yang dipilih melalui purposive sampling. Data dikumpulkan melalui kuesioner dan dianalisis menggunakan regresi linear sederhana melalui SPSS versi 31. Hasil penelitian menunjukkan bahwa kecakapan literasi digital berpengaruh signifikan terhadap pemahaman belajar siswa (Sig. < 0,001). Nilai koefisien determinasi (R Square) sebesar 0,405 mengindikasikan bahwa literasi digital berkontribusi sebesar 40,5% terhadap variasi pemahaman Pendidikan Pancasila. Meskipun terdapat perbedaan orientasi budaya akademik antara sekolah negeri dan swasta, literasi digital terbukti menjadi instrumen kognitif krusial dalam membantu siswa menyaring informasi dan mengonstruksi pengetahuan secara mandiri. Penemuan ini menekankan pentingnya penguatan etika dan

budaya digital dalam kurikulum untuk mentransformasi penggunaan teknologi dari sekadar hiburan menjadi sarana penguatan nilai-nilai kebangsaan yang kritis dan bertanggung jawab.
Kata kunci: *Literasi Digital, Pemahaman Siswa, Pendidikan Pancasila*

A. INTRODUCTION

The development of digital technology has brought about tangible changes in the learning process at school. Al learning process that previously relied heavily on printed books and teachers' explanations isl now increasingly accessible via the internet, educational videos, online learning platforms and social media, which can be accessed at any time. Haleem et al. (2022) state that digital technology has driven a paradigm shift in education, making learning more open, interactive and rich in learning resources. Drawing on the (Halimi et al., 2022) this research puts forward that when digital media is reasonably integrated into the curriculum design and daily learning practices.

Civic education, it can effectively improve the overall learning quality of civic education. Building on this claim, this research further notes that digital literacy is a core skill all learners must master inl the digital age. It clarifies that this is by no means a superficial ability limited only to operating electronic devices, but rather a comprehensive competency covering information screening and critical use of information. The paper further cites the latest studies by Japar etl lal. (2024) andl Harmawati etl lal. (2024) to substantiate thel value of digital lliteracy.

This study first breaks down the three core dimensions of digital literacy among Indonesian students: thel ability to use media, the ability to manage digital learning platforms, and ethical and safety awareness regarding the use of digital media. It then explains the positioning of Pancasila education introduced in this study. Beyond imparting knowledge, this discipline prioritizes nurturing students' character, national awareness, and civic responsibility, to safeguard social cohesion within Indonesia's unified national framework. Finally, the study cites research by Khriswinal et lal. (2025) and Japar et al. (2023) to support the argument that in the digital era, civic education that integrates digital literacy is an effective vehicle for cultivating young people's core competencies.

This study cites empirical research data from Nurdiyanti et al. (2025) the middle school students surveyed in that study used digital devices for more than 6 hours per day on average, the share of time spent on entertainment-related use was far higher than that spent on academic purposes, and most surveyed students had not developed the habit of verifying the credibility of online information. This gap also lays the core foundation for the targeted solutions proposed later in this study. This situation indicates that the potential of digital media as a learning tool has not yet been fully utilised to deepen understanding of subject matter, including Pancasila Education, which demands critical and reflective thinking skills.

The increasingly widespread use of gadgets among students also raises ethical issues in the learning process. Students must not only be equipped with the technical skills to use devices but also need to understand the potential, llimitations, responsibilities, security, and ethics of technology use in learning activities. Harmawati et al. (2024) identify 'ethics and safety' as a key component in measuring Indonesian students' digital lliteracy, indicating that the ethical dimension is an integral partl of digital competence. Vallès-Peris & Domènech (2024) emphasise that digital citizenship education in schools must not be limited to the use of devices alone, but must encompass ethical debates and the fostering of a sense of responsibility within the digital space.

In recent years, digital technologies have continued to evolve and integrate into a wide range of campus learning scenarios. However, most schools around the world still lack systematic policies for the integration and management of digital technologies, with obvious policy gaps. Existing research in this field also has numerous limitations, so this study carries out targeted educational academic exploration to fill this gap. Earlier, Alenezi & Alfaleh (2024) proposed three core challenges for the implementation of digital citizenship education, while (Redecker, 2017) also noted that the popularization of digital learning must be supported by effective management strategies. Existing studies have sorted out multiple specific barriers that local schools face.

When advancing the rollout of digital education. Most past similar studies only linked digital literacy to dimensions such as general academic performance, digital ethics, digital security, and AI literacy, and have not yet addressed the core relationship that this study focuses on. This study takes 11th-grade students from 2 high schools in Yogyakarta, Indonesia, as its research subjects. Its core research question centers on the impact of digital literacy on students' understanding of Pancasila education. The study builds a composite analytical framework based on Paul Gilster's digital literacy theory and Jean Piaget's constructivist theory, uses simple linear regression analysis to conduct empirical testing, and finally reaches the core conclusion that digital literacy contributes 40.5% to students' understanding of Pancasila education. The research findings can serve as a core basis for schools to develop Pancasila education that adapts to learners' digital lives and integrates critical, ethical, and contextual characteristics.

Against the current background, it is highly necessary to conduct a study focused on students' digital literacy skills and their impact on Pancasila education. This study aims to produce empirical conclusions that clarify how much digital literacy improves students' Pancasila values and their grasp of patriotism, with Yogyakarta City serving as the research context. The findings can be used by schools and educators to design digital learning strategies that are relevant, ethical, and contextually appropriate to support national education goals.

B. RESEARCH METHOD

Section of this study's methodology chapter explicitly states that this research uses a quantitative research method that collects objective numerical data, employs SPSS

Version 31 as its statistical analysis tool, is classified as an ex post facto retrospective study, and adopts a correlational research design. The final sample totals 60 participants. This study was conducted in the secondary education sector in the city of Yogyakarta, taking place at two schools with different characteristics, namely State Senior High School 3 Yogyakarta and Muhammadiyah Senior High School 4 Yogyakarta. This study adopts the purposive sampling method proposed by (Ghozali, 2011). It takes 11th-grade students as the research population, selects 60 samples, and covers both public and private schools to ensure the representativeness of the study's data.

The main technique used was the distribution of questionnaires to respondents. The measurement scale used was the Likert scale with a range of five response categories. The analytical techniques employed included validity, reliability, normality tests, linearity tests, descriptive statistics, hypothesis testing, simple linear regression, and the coefficient of determination.

C. RESULTS AND DISCUSSION

RESULTS

Validity

A test was conducted to determine the validity of the questions, with a sample size of 60 respondents. The questionnaire consisted of 30 statements. With a significance level of 5% and a sample size of 60, the critical value (rtable) was found to be 0.254. To facilitate the calculation, the researcher used IBM SPSS Statistics 31; the results are as follows:

Table 1. Results of the Questionnaire Validity Test

Variable	No	rhitung	rtabel	Description
X	1.	0,369	0,254	Valild
	2.	0,429	0.254	Valild
	3.	0,403	0,254	Valild
	4.	0,365	0,254	Valild
	5.	0,383	0,254	Valild
	6.	0,476	0,254	Valild
	7.	0,412	0,254	Valild
	8.	0,342	0,254	Valild
	9.	0,376	0,254	Valild
	10.	0,392	0,254	Valild
	11.	0,403	0,254	Valild
	12.	0,478	0,254	Valild
	13.	0,535	0,254	Valild
	14.	0,334	0,254	Valild
YL	15.	0,394	0,254	Valild
	16.	0,428	0,254	Valild
	17.	0,436	0,254	Valild
	18.	0,510	0,254	Valild
	19.	0,489	0,254	Valild
	20.	0,408	0,254	Valild
	21.	0,513	0,254	Valild

	22.	0,380	0,254	Valild
	23.	0,427	0,254	Valild
	24.	0,426	0,254	Valild
	25.	0,432	0,254	Valild
	26.	0,417	0,254	Valild
	27.	0,342	0,254	Valild
	28.	0,568	0,254	Valild
	29.	0,388	0,254	Valild
	30.	0,326	0,254	Valild

Source: Exsel, 2026

Based on the validity test above, the 30 statements tested were deemed valid as the calculated r value was greater than the table r value, and there were no invalid questionnaires.

Reliability

Following the validity test on the questionnaire instrument, the instruments deemed valid were then tested for reliability using calculations performed with the aid of SPSS version 31. The results are as follows:

Table 2. Results of the Reliability Test for Variable X

Reliability Statistics

Cronbach's Alpha	N of Items
.606	14

Source: SPSS Version 31, 2026

Based on the results of the reliability test in the table above, it can be seen that the Cronbach's Alpha value of 0.606 is greater than 0.06, which indicates a very high degree of reliability. This suggests that the digital literacy skills questionnaire is acceptable as a data collection tool and is suitable for use.

Table 3. Results of the Reliability Test for Variable Y

Reliability Statistics

Cronbach's Alpha	N of Items
.685	16

Source: SPSS Version 31, 2026

Based on the results of the reliability test in the table above, the Cronbach's Alpha value of 0.685 is greater than 0.06, indicating a very high degree of reliability. This suggests that the learning comprehension questionnaire is acceptable as a data collection tool and suitable for use.

Assumption Tests

Normality Test

A normality test is carried out as a prerequisite before conducting a hypothesis test. The normality test was performed on 30 questionnaire items relating to digital literacy skills and learning comprehension, which had been distributed to the sample and from

which data had been collected. Thel following are the results of the normality test, which was conducted using SPSSl 31.

Table 4. Results of the Normality Test for X and Y

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			60
Normal Parameters[a,b]	Mean		.0000000
	Std. Deviation		4.43156063
Most Extreme Differences	Absolute		.107
	Positive		.080
	Negative		-.107
Test Statistic			.107
Asymp. Sig. (2-tailed)[c]			.083
Monte Carlo Sig. (2-tailed)[d]	Sig.		.080
	99% Confidence Interval	Lower Bound	.073
		Upper Bound	.087

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 2000000.

Source: SPSS Version 31, 2026

Based on the results ofl the normality test for variables X and Y, it can be seen that the Kolmogorov–Smirnov test value indicates a significance level of 0.83 > 0.05. It can therefore be concluded that the data on digital literacy skills and learning comprehension are normally distributed.

Linearity Test

A linearity test isl conducted to determine whether the two variables under examination have a significant linear relationship or not. The following are the results of the linearity test carried out using SPSS version 31.

Table 5. Results of the Linearity Test for X and Y

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
PEMAHAMAN * KETERAMPILAN	Between Groups	(Combined)	1161.152	21	55.293	2.667	.004
		Linearity	790.315	1	790.315	38.119	<,001
		Deviation from Linearity	370.837	20	18.542	.894	.595
	Within Groups		787.848	38	20.733		
	Total		1949.000	59			

Source: SPSS Version 31, 2026

Based on the results of the linearity test in the table, it can be seen that the Sig. Deviation value for the linearity test of digital literacy skills on learning comprehension is 0.595 > 0.05. It can therefore be concluded that there is a linear relationship between digital literacy skills and learning comprehension.

Descriptive Statistics

Descriptive statistica measurements of these variables are required tol provide an overview of the data, such as the mean, maximum (Max), minimum (Min) and standard deviation for each variable, namely digital literacy skills (X) and understanding of learning (Y). The results of the descriptive statistica analysis are as follows.

Table 6. Results of Descriptive StatisticaL Tests

Descriptive Statistics

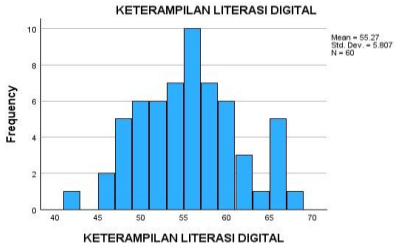
	N	Minimum	Maximum	Mean	Std. Deviation
KETERAMPILAN LITERASI DIGITAL	60	42	68	55.27	5.807
PEMAHAMAN PEMBELAJARAN	60	52	76	67.50	5.748
Valid N (listwise)	60				

Source: SPSS Version 31, 2026

Based on the results of the descriptive analysis above, we can describe the distribution of the data obtained by the researcher as follows.

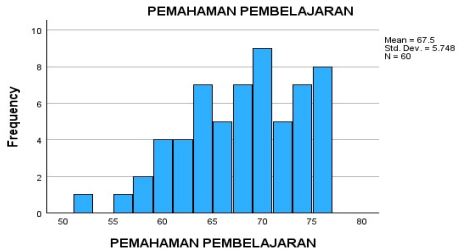
1. Digital Literacy Skills variablel (X): from this data, it can be seen that the minimum score is 42, the maximum score is 68, and the average digital literacy skills score for students is 55.27. The standard deviation for digital literacy skills is 5.807.
2. The Learning Comprehension variable (Y): from the data, it can be described that the minimum score is 52, the maximum score is 76, and the average learning comprehension score of the students is 67.50. The standard deviation of digital literacy skills is 5.748

Figure 1. Histogram of Digital Literacy Skills (X)



This study conducted a small-sample quantitative survey targeting group digital literacy. It used a histogram to present the score distribution of 60 respondents. Calculations returned a mean score of 55.27 and a standard deviation of 5.807. Most scores fell within the 50-60 range, while scores between 54 and 57 recorded the highest frequency. The vast majority of respondents met the standard for qualified digital literacy.

Figure 2. Histogram of Learning Comprehension (Y)



This study uses a histogram to present the learning comprehension levels of 60 survey respondents. The measured sample has a mean of 67.5 and a standard deviation of 5.748, based on which we judge that the data has a low degree of dispersion. Most scores fall within the range of 60 to 75, with a peak in frequency around the 68–72 mark. This suggests that the majority of respondents have a reasonably good level of understanding and are clustered around the mean.

Hypothesis Testing

Table 7. Hypothesis Tests for X and Y

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	32.669	5.568		5.868	<,001
	KETERAMPILAN	.630	.100	.637	6.290	<,001

a. Dependent Variable: PEMAHAMAN

Source: SPSS Version 31, 2026

a. If the Sig. (2-tailed) value is < 0.05, then Ho is rejected and Ha is accepted.
b. If the Sig. (2-tailed) value is > 0.05, then Ho is accepted and Ha is rejected.

Based on the output table above, it can be seen that the Sig. (2-tailed) value is < 0.001 < 0.05. In accordance with the decision-making guidelines set out above, H_0 is rejected and H_1 is accepted. It can therefore be concluded that there is an effect of digital literacy skills on learning comprehension.

Simple Linear Regression

A simple linear regression test was conducted to determine whether thle two variables under examination have a significant influence on each independent and dependent variable. The following are the results of the simple linear regression test carried out using SPSS version 31.

Table 8. Simple Linear Regression Test for X and Y

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	790.315	1	790.315	39.561	<,001[b]
	Residual	1158.685	58	19.977		
	Total	1949.000	59			

a. Dependent Variable: PEMAHAMAN
b. Predictors: (Constant), KETERAMPILAN

Source: SPSS Version 31, 2026

Based on the table above, it can be seen that the calculated F-value is 39.561, with a significance level of < 0.001 < 0.05; therefore, the regression model can be used to predict the participation variable. In other words, there is an effect of the digital literacy skillsl variable (X) on learning comprehension (Y).

Coefficient of Determination

Table 9. Results of the Coefficient of Determination Test for X and Y

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.637[a]	.405	.395	4.470

a. Predictors: (Constant), KETERAMPILAN

Source: SPSS Version 31, 2026

Based on the Model Summary table, the value of R = 0.637 indicates that the relationship between the skills variable and the dependent variable falls into the moderately strong category. The value of R Square = 0.405 means that the skills variable accounts for 40.5% of the variation in the dependent variable, whilst the remaining 59.5% is influenced by other factors outside the research model.

DISCUSSION

The Reality of Digital Literacy Skills: Disparities and Similarities between State and Private Schools

Understanding the current status of students' digital literacy is the core and primary prerequisite for formulating strategies to enhance learning empowered by

technology. In the field's classic research, Gilster (1997) proposed the core definition of digital literacy and a four-dimensional analytical framework He noted that digital literacy is not limited to basic technical operation skills, but also requires the critical thinking to evaluate, filter, and integrate information. The corresponding four-dimensional framework includes four core competencies: internet search, hypertext navigation, content evaluation, and knowledge integration. Building on this framework, this study conducted a survey targeting students from two high schools in Yogyakarta, Indonesia: Yogyakarta No. 3 State High School and Muhammadiyah No. 4 High School. Descriptive statistical analysis of the collected data shows that respondents had an average digital literacy score of 55.27, with a standard deviation of 5.807, and scores clustered in the 50–60 range. The digital literacy profiles of the two sample schools were highly consistent: students held advantages in technical dimensions, but had obvious shortcomings in high-order cognitive dimensions such as content evaluation. The dimensional gaps identified in this study align with the conclusions of Raharjo & Winarko (2021) study on the digital literacy of Indonesia's younger generation, while the causal argument put forward by (Mensonides et al., 2024) can explain this gap: technology use habits formed through daily social and recreational activities only refine basic technical capabilities such as navigation, and cognitive capabilities related to evaluation can only be developed through structured teaching and guidance in formal educational settings. Accordingly, this study proposes that while students from the two schools only possess basic skills for using digital devices, the depth of their digital literacy for academic learning scenarios needs to be optimized through targeted structured curriculum interventions.

This study's survey of Indonesian secondary school students shows that there are no statistically significant differences in the digital literacy profiles of students at local public and private schools. This finding overturns the long-held assumption that public schools have more robust technical infrastructure, so their students should naturally have higher digital literacy. Previous research by Ng (2012), Saputra et al. (2024), (Harmawati et al., 2024) supports the validity of this conclusion: device accessibility does not equate to digital literacy. The core influencing factors are the intensity and quality of students' critical, reflective use of digital content, rather than the level of hardware provision. Shared weaknesses in digital literacy among Indonesian students across schools are concentrated in two dimensions: the practice of digital ethics and information security protection. It can therefore be inferred that current digital literacy challenges are systemic, and cannot be resolved solely by.

Increasing infrastructure investment. Nevertheless, the two types of schools still have subtle qualitative differences that the quantitative tools used in this study failed to capture. (Alenezi & Alfaleh, 2024) proposed three core factors shaping the implementation of digital citizenship education: alignment of curriculum policies, teacher readiness and training, and institutional consistency in advancing digital literacy. In the local cases analyzed, Yogyakarta's Third Public National High School (SMA Negeri 3 Yogyakarta) and

Yogyakarta's Fourth Muhammadiyah Private High School, an Islamic-background private institution (SMA Muhammadiyah 4 Yogyakarta), each have unique developmental advantages. Research by (Khriswina et al., 2025) also corroborates private schools' distinct advantage in integrating local ethics into literacy development. The key limitation of this study lies precisely in the fact that the questionnaire used failed to capture such differences between the two school types in their orientation and motivations for digital technology use, and these differences have not yet translated into measurable quantitative gaps in literacy scores.

During the investigation phase of this study, we first identified a core contradiction: the surveyed group of secondary school students universally face a problem of quantity-quality mismatch in their use of digital devices. To clarify the underlying logic of this contradiction, this study links multiple recent peer studies to build a full chain of argumentative support by (Nurdiyanti et al., 2025). Study by (Zakir et al., 2025). Provide solid empirical support for the cross-regional universality of this mismatch phenomenon by (Vallès-Peris & Domènech, 2024) tudy completes an analysis of the deep-seated causes of the mismatch; and the Pradana et al. (2024) and (Puspitoningrum et al., 2024) al. establish the core theoretical framework for the subsequent analysis of this study. Building on this foundation, this study further points out the practical flaws of existing teaching interventions: the official digital literacy roadmap released by Indonesia's Ministry of Communication and Information Technology in 2022 has not been effectively implemented in the two sample schools surveyed for this study, and the two core pillars specified in the roadmap have never been integrated into daily teaching processes. In response to this series of problems, this study proposes targeted school-based pathways to improve digital literacy: school-level digital literacy cultivation cannot focus solely on teaching technical operations, but must also simultaneously cover the systematic cultivation of digital ethics and cultural awareness, position digital technology as a core tool to strengthen citizens' national identity, and fill the core gap in existing interventions.

Understanding Pancasila Education in Two Different Academic Cultures

This study argues that the concept of "understanding" within the educational context of Pancasila has strong context dependence. It is embedded in the values, norms, and teaching orientations of educational institutions, and directly or indirectly shapes the process through which students interpret and internalize national values. We draw on Bloom & Krathwohl (1956) classic cognitive taxonomy to define "understanding" at the general cognitive level as a cognitive ability that goes beyond rote memorization, and that allows individuals to explain, categorize, and restate concepts based on their own thinking frameworks. Next, we anchor the context-specific connotations of this concept using findings from a 2025 study by (Khriswina et al., 2025)., which outlines five core requirements including mastering core factual knowledge and internalizing democratic values. Finally, this study proposes that measurement of this construct cannot rely on average scores as its sole basis, and must be implemented in combination with the specific learning context of each individual school. This study adopts clear measurement principles:

the average score cannot be used as the sole basis, and analysis must be combined with the learning contexts of students at each school. Descriptive statistical results show that variable Y, which measures understanding of Pancasila.

Education, has an average score of 67.50 and a standard deviation of 5.748. The scores of most respondents fall in the range of 60 to 75, and the frequency peak occurs between 68 and 72 points. This average score is higher than the digital literacy scores of students at the sample schools, leading to the inference that students at the two sample schools have an overall sufficient foundational understanding of the content of Pancasila Education. Finally, this study additionally cites Anderson (2023) revised Bloom's Taxonomy to refine the core characteristics of "true understanding": students are able to explain, exemplify, classify, summarize, infer, compare, and interpret concepts across different contexts.

The academic culture of State Senior High School 3 Yogyakarta, as a favoured state school with a high academic reputation, provides a distinct atmosphere in the formation of students' understanding of Pancasila Education. Leading state schools generally have a strong competitive climate, strict academic standards, and a more structured learning orientation focused on the measurable achievement of curricular competencies (Saputra et al., 2024). In this context, understanding of Pancasila Education tends to be shaped through a more systematic approach based on the achievement of competency indicators set out in the national curriculum. Academically structured citizenship education has the advantage of building comprehensive conceptual understanding, but risks producing an understanding that is purely cognitive-normative if not balanced with contextual and reflective learning experiences (Japar et al., 2023). This situation indicates that the strength of the academic culture in state schools in promoting conceptual mastery needs to be balanced with a more transformative pedagogical approach so that understanding of Pancasila Education does not stop at the level of memorising formal values, but is deeply internalised in students' daily attitudes and behaviour.

Meanwhile, the academic culture of SMA Muhammadiyah 4 Yogyakarta, as a private school rooted in Islamic religious tradition, presents a distinct yet complementary dimension in the formation of understanding of Pancasila Education. Educational institutions rooted in Islamic and Muhammadiyah traditions inherently prioritise the integration of moral values, ethics, and social responsibility in every aspect of learning, which substantially intersects with the values contained within the principles of Pancasila(Mindyasningrum, 2024). Savitri et al. (2025) was found that Citizenship Education based on a constructivist approach in schools with a strong value-based ethos tends to yield a more contextual and internalised understanding, as pupils are accustomed to linking academic knowledge with the values embedded in their school culture. Thus, although quantitatively the difference in comprehension scores between the two schools does not indicate a striking gap, qualitatively there is a difference in the orientation of understanding, whereby students at religious-based schools tend to construct their

understanding of Pancasila through a moral-religious lens that enriches the affective dimension, whilst students at elite state schools tend to be stronger in the cognitive-conceptual dimension.

The differences in academic cultural orientation between the two schools ultimately have implications for how each group of students processes and constructs their understanding of the elements of Pancasila Education, which in the Merdeka Curriculum encompasses four main components: Pancasila, the 1945 Constitution of the Republic of Indonesia, Bhinneka Tunggal Ika, and the Unitary State of the Republic of Indonesia. Within the framework of constructivism, Piaget (1974) explained that understanding is not formed uniformly in every individual, but rather through a process of assimilation and accommodation that is heavily influenced by the students' prior cognitive schemas prior to formal learning. In Indonesia's educational landscape, there are significant pre-existing differences in cognitive schemas between students attending religious schools and public schools: the cognitive schemas of religious school students are centered on internalized moral and social values, while those of public school students are gradually shaped by on-campus competitive academic interactions and quantifiable academic achievement standards. Tishana et al. (2023) and her colleagues put forward a pivotal judgment that this gap is by no means an obstacle to the implementation of Pancasila education; instead, it is a high-quality educational resource that can be developed. As long as appropriately matched pedagogies are adopted, Pancasila education can achieve balanced development across the three dimensions of cognition, affect, and psychomotor skills. However, both types of schools currently face a shared core challenge in the digital age: excessive, unstructured digital information is distorting students' correct understanding of national values. (Halimi et al., 2022), pointed out that the integration of digital media into civic education produces two-way effects: positive guidance can improve learning quality, while long-term exposure to conflicting narratives will erode existing value identity. Japar et al. (2023) clarified that the core challenge of contemporary civic education has shifted from insufficient access to information to cultivating students' ability to screen and evaluate information critically and responsibly. Drawing on relevant conclusions from existing research, this paper proposes that all public and private schools in Indonesia must prioritize strengthening digital literacy to serve as a cognitive and moral safeguard, which underpins the on-the-ground implementation of Pancasila education. Given the stark differences in the academic cultures of these two types of schools, a uniform implementation pathway is entirely unsuitable; instead, strategies must be adapted to fit their respective distinct talent development needs. To further consolidate this core premise, this paper first cites the core conclusions of existing research: Radičuks et al. (2025) argue that education in the digital age must integrate the eight dimensions of digital literacy, which cover cognitive, emotional, social, and individual domains, to achieve a comprehensive understanding of core values; Julia et al. (2024) point out that the deep learning of Pancasila values must meet three implementation conditions, namely application value rooted in real-world scenarios, organized discussions on contemporary

applicability, and sufficient space for critical reflection that connects national values to personal experiences. Based on the above citations, this paper proposes that the academic cultural differences between public and private schools are not a barrier to the promotion of Pancasila education, but can instead be transformed.

The Significance of the Influence of Digital Literacy on the Success of Pancasila Education

Citizens who can take Pancasila as an ethical guide for the digital age. To verify the core supporting logic of this claim, this study carries out an empirical analysis: the research aims to test the impact of digital literacy on the level of understanding of Pancasila education. The method uses inferential statistical analysis, with digital literacy as the independent variable and learning understanding as the dependent variable, to conduct hypothesis testing and simple linear regression. The results show that the two-tailed significance value is <0.001, far below the statistical threshold of 0.05. Therefore, this study rejects the null hypothesis and accepts the alternative hypothesis. The core conclusion is that digital literacy has a statistically significant positive impact on learning understanding: the stronger students' digital literacy, the higher their level of understanding of Pancasila education. Fitriyani & Nugroho (2022) previously proposed that digital literacy, which covers a range of digital media reading and writing skills, is a core element supporting learning effectiveness and can help students deeply access and apply information. This conclusion also provides reliable external corroboration for the empirical findings of this study.

Furthermore, the results of the simple linear regression analysis indicate that the model used in this study is suitable for predicting the influence of the digital literacy variable on learning comprehension. A calculated F-value of 39.561 with a significance level of < 0.001 (< 0.05) indicates that the constructed regression model has adequate validity. This means that digital literacy skills can empirically be used as a predictor of students' level of understanding in Pancasila Education learning. The results of the coefficient of determination analysis also show an R value of 0.637, indicating that the relationship between digital literacy and learning comprehension is in the 'moderately strong' category. Furthermore, the R^2 value of 0.405 implies that digital literacy contributes 40.5% to the variation in learning comprehension in Pancasila Education. Thus, the results of this study support the theory of digital literacy put forward by Paul Gilster, that the ability to understand and manage digital information plays a crucial role in improving the quality of learning comprehension (Gilster, 1997). However, these figures also indicate that digital literacy is not the sole factor influencing learning success, as there remains a 59.5% contribution from other variables outside the research model, such as teaching methods, learning motivation, the school environment, and family factors.

In line with Alvira et al. (2023) view that there are several factors that can influence the effectiveness and level of understanding of learners in the learning process, namely teaching methods, the learning environment, learner engagement, and the role of teachers and parents in the learning process. This study concludes that digital literacy is a key

influencing factor for the success of Pancasila education, but it cannot exert its effect independently, and must be incorporated as an inherent part of schools' learning transformation strategies.

Institutional Implications and the Need for Learning Transformation in the Digital Age

Research by (Muntazarah, 2025) points out that to truly implement learning transformation in the digital age, teachers must complete three core shifts in their teaching models and roles, and schools must simultaneously support three types of enabling activities: online discussions, collaborative projects, and independent problem-solving. Research by (Subandi & US, 2024) further proposes that schools also need to develop structured policies for integrating technology into teaching, and allocate sufficient digital infrastructure to narrow the digital divide between groups. This study puts forward a core judgment: digital literacy is the core influencing factor for the success of Pancasila education, and its effect cannot be exerted independently; it must be embedded as an inherent component of schools' learning transformation strategies. Without strong policy guidance, technology use in classrooms will become inefficient, and a sound ethical learning culture cannot be fostered. Third, the correction of misaligned digital use among students. Survey data from this study shows that currently, students spend an average of more than 6 hours per day engaging with digital tools, but this accumulated access time has not translated into improved quality of digital use for academic purposes. Instant recreational content creates cognitive interference that hinders the deepening of civic values. If the two core pillars of digital culture and digital ethics are not strengthened, technology will instead lead to superficial cognitive development among students, and may even expose them, via algorithmic recommendations, to ideologies that contradict Pancasila. It is therefore necessary to guide students to shift the focus of their digital use from entertainment to academic pursuits. It is therefore vital for schools to pay special attention to the pillars of digital ethics and digital culture. This is to ensure that technology is not merely utilised for technical sophistication, but also as a means to strengthen character and the internalisation of Pancasila values in the digital space.

In line with this, Puspitoningrum et al. (2024) research also underlines the importance of making digital literacy a core pillar of the curriculum, alongside the integration of a comprehensive digital literacy curriculum at senior secondary school level, encompassing learning about ethics and safety in the use of technology. Given that digital literacy contributes 40.5% to students' understanding, schools are advised not to treat it as supplementary material. Digital literacy must be systematically integrated into the pancasila education subject so that students are able to filter cyber information that conflicts with national values. Consequently, digital literacy serves as a protective mechanism to minimise the negative impact of social media whilst equipping students with the ability to access, analyse, evaluate, and utilise information critically, ethically, and responsibly (abidjulu & darwis, 2024). In this regard, teachers can design tasks that challenge students to use their devices as tools for research and verification of academic information, thereby reducing cognitive distraction from instant content.

This paper proposes that integrating the merdeka curriculum framework with the pancasila student profile strengthening project (p5) is the core pathway to strengthen students' digital literacy. P5 is established around its core value of pancasila, and its core competencies include the 4cs: Critical thinking, communication, collaboration, and creativity. (zakir et al., 2025) digital literacy requires individuals to critically, ethically, and safely assess, apply, and manage information. The two initiatives have highly aligned core connotations; once implemented, they can provide a clear carrier for digital literacy cultivation, and substantially enhance the efficacy of student nurturing.

D. CONCLUSION

This study focuses on the impact of digital literacy on students' level of understanding of Pancasila education. Measurements show that the significant positive effect of digital literacy on this understanding level accounts for 40.5% of the total measured effect. This study has two limitations: first, the sample only covers 2 schools in Yogyakarta, Indonesia; second, it uses only quantitative data and does not explore qualitative factors such as digital ethics and campus culture. Future research needs to expand the geographic scope and size of the sample, and adopt mixed research methods to explore other influencing variables.

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