DIGITAL COMMUNICATIVE LITERACY DALAM PENDIDIKAN KEJURUAN: STUDI DIAGNOSTIK TENTANG PEMAHAMAN DAN RESPONS SISWA TERHADAP MISINFORMASI DARING

DIGITAL COMMUNICATIVE LITERACY IN VOCATIONAL EDUCATION: A DIAGNOSTIC STUDY ON STUDENTS' UNDERSTANDING AND RESPONSES TO ONLINE MISINFORMATION

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ABSTRACT

The spread of misinformation on social media presents growing challenges for adolescents' digital literacy, particularly among vocational high school students who actively engage with online platforms. This study examines how digital communicative literacy (DCL) shapes students' ability to understand, evaluate, and respond to misleading information. Drawing on media literacy frameworks, DCL is conceptualized as comprising three domains: conceptual understanding, reasoning logic, and critical decision-making. The study involved 100 vocational students in West Java, Indonesia, using a validated ten-item educational diagnostic instrument. The findings show that students demonstrate moderate conceptual understanding of misinformation but weaker reasoning and decision-making when encountering emotionally persuasive content. Students with lower DCL scores also reported greater confusion and difficulty when evaluating misleading information online. These findings suggest the importance of integrating practice-based media literacy activities in vocational education to strengthen students' critical reasoning and responsible engagement with digital media. This study contributes to the literature by advancing DCL as an integrative framework that links cognitive understanding with communicative decision-making in adolescents' responses to misinformation.

Keywords: *digital communicative literacy, media literacy education, misinformation, digital literacy, vocational students.*

ABSTRAK

Penyebaran misinformasi di media sosial menghadirkan tantangan yang semakin kompleks bagi literasi digital remaja, khususnya siswa sekolah menengah kejuruan (SMK) yang aktif terlibat dalam penggunaan platform digital. Penelitian ini bertujuan untuk mengkaji bagaimana digital communicative literacy (DCL) membentuk kemampuan siswa dalam memahami, mengevaluasi, dan merespons informasi yang menyesatkan. Berangkat dari kerangka literasi media, DCL dikonseptualisasikan ke dalam tiga domain utama, yaitu pemahaman konseptual, penalaran logis, dan pengambilan keputusan kritis. Penelitian ini melibatkan 100 siswa SMK di Jawa Barat, Indonesia, dengan menggunakan instrumen diagnostik pendidikan berjumlah sepuluh butir yang telah tervalidasi. Hasil penelitian menunjukkan bahwa siswa memiliki tingkat pemahaman konseptual yang moderat terhadap misinformasi, namun menunjukkan kelemahan pada aspek penalaran dan pengambilan keputusan ketika menghadapi konten yang bersifat emosional dan persuasif. Selain itu, siswa dengan skor DCL yang lebih rendah cenderung melaporkan tingkat kebingungan dan kesulitan yang lebih tinggi dalam mengevaluasi informasi yang menyesatkan di ruang digital. Temuan ini menegaskan pentingnya integrasi aktivitas literasi media berbasis praktik dalam pendidikan kejuruan guna memperkuat kemampuan berpikir kritis dan keterlibatan yang bertanggung jawab dalam penggunaan media digital. Penelitian ini berkontribusi pada pengembangan literatur dengan mengembangkan konsep DCL sebagai kerangka integratif yang menghubungkan pemahaman kognitif dengan pengambilan keputusan komunikatif dalam respons remaja terhadap misinformasi.

Kata Kunci: literasi komunikasi digital, pendidikan literasi media, misinformasi, literasi digital, sekolah menengah kejuruan (SMK)

1. INTRODUCTION

The rapid growth of internet use has significantly transformed communication practices worldwide. In Indonesia, this transformation is reflected in the widespread daily engagement of adolescents with social media platforms (Baruah, 2024; Joshi et al., 2022; Asosiasi Penyelenggara Jasa Internet Indonesia (APJII), 2024). Social media facilitates interaction and information exchange. However, it also increases exposure to various risks. These include victimization, addiction, reduced academic performance, and misinformation. Misleading content, in particular, has become highly prevalent in the digital landscape (Ansary, 2020; Evers et al., 2020; S. Livingstone et al., 2013; Sawyer, 2018; Vernon et al., 2015). Meanwhile, adolescents are increasingly exposed to misinformation on social media, while their ability to critically evaluate such content remains uneven (Berg et al., 2025; Selnes, 2024).

In Indonesia, social media has become the dominant channel for the dissemination of hoax content, accounting for 83.11% of misinformation cases (Indonesian Internet Service Provider Association (APJII), 2024). A previous national survey revealed that 34.6% of Indonesians encounter hoax news daily (Mastel, 2019).

This widespread exposure is driven by the ease of producing and sharing content on digital platforms. However, digital literacy remains limited. Only a small proportion of users feel confident in identifying misleading information, largely due to gaps in cognitive and critical reasoning skills (Irwansyah, 2024). As a result, many users do not perceive hoaxes as a serious issue, which allows misinformation to continue circulating.

The spread of hoaxes presents both cognitive and communicative challenges. Adolescents are not merely passive recipients of false information; they must interpret, evaluate, and decide how to respond, whether to believe, share, ignore, or critique the message. Decision-making in response to misinformation involves multiple cognitive processes such as meaning construction, credibility assessment, and ethical consideration. This constellation of skills aligns with the concept of *digital communicative literacy* (Hobbs, 2017; S. Livingstone, 1998; Quintino & de Simões, 2024), which refers to the capacity to engage critically, ethically, and reflexively with digital messages in networked environments.

Within this framework, vocational high school (VHS) students represent one of the most vulnerable groups in Indonesia's digital ecosystem. These students, aged 14 to 18 years, are at a critical stage of cognitive and socio-emotional development (Sarwono, 2011) and are trained through practice-oriented learning to prepare for professional employment (Calhoun, 1979; Thuan & Liu, 2018).

Currently, there are over five million VHS students in Indonesia, with the largest concentration located in West Java (Badan Pusat Statistik, 2024). Despite their technological exposure, many of these students face psychological and communicative vulnerabilities due to intensive social media use combined with low media literacy levels (Julianto et al., 2023). Prior studies indicate that exposure to misinformation is associated with psychological risks such as anxiety, stress, and emotional fatigue, particularly among adolescents (Ergün et al., 2023; Mazzeo et al., 2024; Rocha et al., 2021). This aligns with recent evidence suggesting that adolescents remain particularly vulnerable to misinformation due to ongoing cognitive and socio-emotional development (Berg et al., 2025).

Despite these concerns, existing research on misinformation and media literacy has largely focused on general populations and university students (Buckingham, 2019; Hobbs, 2017). Empirical studies that specifically examine vocational high school students remain limited, particularly in terms of how they cognitively process and communicatively respond to hoax content. Moreover, prior research tends to emphasize the ability to recognize misinformation, while paying less attention to how individuals decide to respond, whether to believe, ignore, verify, or share misleading information. This gap is critical in vocational education contexts, where students' digital engagement is high but their communicative decision-making and critical reasoning remain underexplored. Recent empirical research has begun to highlight this gap, particularly the discrepancy between adolescents' perceived ability to identify misinformation and their actual capacity to respond critically (Berg et al., 2025; Castillo et al., 2026).

From an educational perspective, the ability to critically engage with hoax content is an essential component of digital literacy, which aims to foster reflective reasoning and informed decision-making in digital communication (Hobbs, 2017; Potter, 2021). Understanding how vocational students interpret and respond to misinformation is therefore crucial for developing pedagogical strategies that strengthen cognitive resilience in complex digital environments.

This study aims to examine how vocational high school students process hoax information and how their responses reflect both cognitive capacity and communicative agency. It also explores whether demographic factors, such as gender and duration of social media use, influence students' ability to critically evaluate misinformation. By integrating psychological and educational perspectives, this study seeks to provide empirical insight into the role of digital communicative literacy in shaping adolescents' engagement with misinformation.

This study makes three main contributions. First, theoretically, it advances the concept of Digital Communicative Literacy (DCL) by positioning it as an extension of media literacy that integrates cognitive evaluation with communicative decision-making in responding to misinformation. Second, empirically, it provides evidence from vocational high school students, a group that remains underexplored in digital literacy research. By examining how these students process and respond to misinformation, the study highlights a gap between conceptual understanding and communicative action. Third, practically, the study offers pedagogical insights by identifying specific weaknesses in students' reasoning and decision-making processes, and proposes practice-based media literacy strategies to strengthen critical engagement and responsible digital participation.

Accordingly, the following research questions guide this study, RQ1: To what extent do vocational high school students comprehend social media hoaxes and their implications for mental health? RQ2: Are there gender-based variations in students' cognitive levels when assessing social media hoaxes? RQ3: Is there an association between the duration of social media usage and students' cognitive ability to discern and critically evaluate hoaxes?

1.1. Framework Theory

The concept of Digital Communicative Literacy (DCL) is positioned as an extension of existing media literacy frameworks. While traditional media literacy emphasizes the ability to access, analyze, and evaluate information, DCL advances this perspective by integrating communicative decision-making and ethical response as central components. In this sense, misinformation is not only a cognitive or technological issue, but also a communicative and pedagogical challenge that requires individuals to interpret, respond, and act within participatory digital environments.

Drawing from Hobbs' (2017) Access–Analyze–Evaluate–Create–Act model and Potter's (2021) concept of media literacy as multidimensional cognition, this framework recognizes that understanding misinformation requires both critical comprehension and ethical agency. Unlike these

frameworks, which primarily focus on cognitive evaluation, DCL explicitly incorporates communicative agency, referring to how individuals decide to respond to misinformation as a core dimension of literacy.

While traditional cognitive theories (Piaget, 1954) emphasize mental structures of understanding, contemporary media literacy research stresses that cognition is always socially enacted, performed through language, empathy, and reflection (Buckingham, 2019; Mihailidis, 2018). Thus, DCL is not simply a mental skill set but a communicative capacity to respond wisely to digital stimuli. Within this study, DCL is conceptualized through three interrelated domains (see Figure 1):

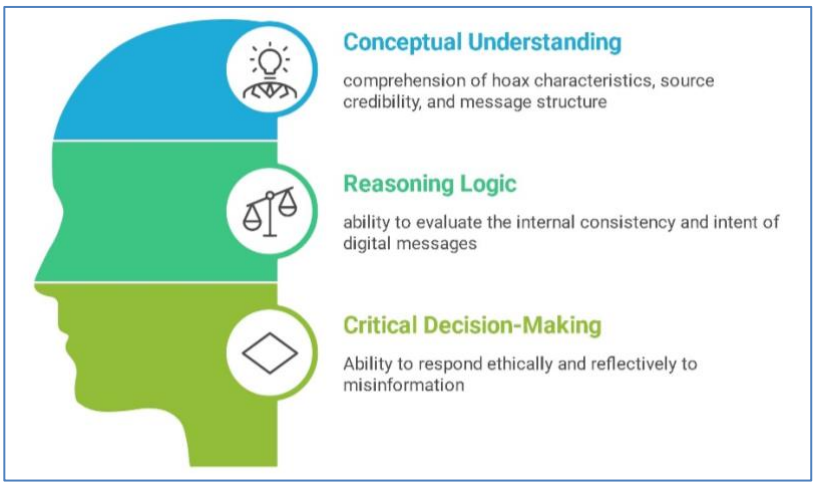

Figure 1. Digital Communicative Literacy Framework

As shown in Figure 1, the Digital Communicative Literacy Framework positions literacy as a continuum of cognitive, analytical, and ethical competence. The framework aligns with Hobbs' (2017) and Mihailidis' (2018) conceptualization of reflective digital engagement, emphasizing that true media literacy extends beyond recognizing misinformation, it requires learners to reason critically and act responsibly within participatory digital spaces.

Conceptual understanding reflects the ability to identify misinformation forms, recognize false or manipulated content, and connect media representations with their psychological and social consequences. Reasoning logic involves evaluating bias, fallacies, and emotional triggers in online content, highlighting students' capacity for reflective skepticism. Critical decision-making represents communicative agency—the ability to decide whether to ignore, verify, critique, or respond to misinformation ethically and responsibly.

Each domain represents a progressive stage of digital literacy development—from recognizing information forms to reasoning through meaning, and ultimately to exercising ethical digital judgment. These domains form a progressive structure of learning—from knowing to reasoning to acting. Conceptual understanding represents declarative knowledge of what misinformation is and how it operates. Reasoning logic represents procedural knowledge—the skill of interrogating message coherence, motive, and consequence. Critical decision-making reflects conditional and ethical knowledge, when and why to respond, verify, or refrain from engagement.

Taken together, these domains embody Bandura's (1994) notion of self-efficacy, belief in one's ability to act intentionally and ethically in communicative contexts. In digital environments where algorithms amplify emotion and peer norms shape credibility, digital communicative self-efficacy becomes the foundation of cognitive resilience.

In pedagogical terms, DCL positions learners not as passive consumers of information but as reflective meaning-makers and ethical agents. By embedding cognitive reasoning within dialogic learning—debate, reflection, and collaborative verification, educators can help students transform awareness into action. As Mihailidis (2018) argues, media literacy today must cultivate "civic intentionality": the will and capacity to act responsibly in digital spaces.

Therefore, the Digital Communicative Literacy Framework extends existing media literacy models by emphasizing communication as both process and outcome of cognition. It proposes that understanding misinformation is inseparable from expressing, dialoguing, and deciding—core practices of democratic digital citizenship.

2. METHODS

2.1. Research Design

This study employed a quantitative descriptive design framed within an educational assessment approach to evaluate vocational students' digital communicative literacy (DCL) in responding to social media hoaxes. The research aimed to assess students' applied understanding of digital information, reasoning logic, and critical decision-making within authentic educational contexts. The study followed principles of media literacy evaluation (Hobbs, 2017; Mihailidis, 2018), emphasizing students' reflective, ethical, and communicative competencies in digital environments.

2.2. Educational Context

The study was conducted among students enrolled in Indonesia's Vocational High School (VHS) system, which provides practice-based curricula integrating general education with occupational training. The vocational education framework emphasizes applied learning, where students engage in both classroom-based instruction and industrial internship programs. Participants were recruited from a public VHS in West Java Province, a region with one of the largest concentrations of vocational students in Indonesia (Statistik, 2024). the selected school implements the 2022 Merdeka Curriculum (Freedom-to-Learn Curriculum), which incorporates digital literacy and character education within subjects such as Informatics, Communication Studies, and Civic Education (Irnawanto et al., 2025). This educational context was selected because vocational students regularly interact with digital media both in learning activities and in daily social communication. As a result, social media functions simultaneously as an educational resource and a potential source of misinformation and psychological influence, making vocational classrooms a relevant site for examining students' Digital Communicative Literacy (Perry et al., 2023).

2.3. Participants

This study employed a focused diagnostic design involving 100 vocational students. Rather than aiming for statistical generalization, the sample was intended to provide an exploratory assessment of students' digital communicative literacy within a specific educational context. The participants consisted of 100 vocational students (48 male, 52 female), aged 14–17 years, selected through purposive sampling based on the inclusion criteria of: (a) active enrollment in the VHS system, (b) daily use of social media for at least one year, and (c) voluntary consent to participate. Most students reported using social media platforms such as TikTok, Instagram, and WhatsApp for an average of three to four hours per day. The sample size was considered adequate for exploratory diagnostic assessment research in educational contexts, where the objective is to identify literacy patterns rather than achieve population-level statistical generalization.

2.4. Instrument

The study utilized a ten-item diagnostic assessment designed to measure students' digital communicative literacy across three domains: (1) Conceptual Understanding: comprehension of hoax characteristics, source credibility, and message structure; (2) Reasoning Logic: ability to evaluate the internal consistency and intent of digital messages; and (3) Critical Decision-Making: ability to respond ethically and reflectively to misinformation. Item development was informed by existing frameworks of media literacy and misinformation studies.

Each item was presented in multiple-choice format, contextualized in realistic social media scenarios (e.g., viral news, forwarded messages, and influencer posts). The instrument was validated through expert review and pilot testing on 20 students, yielding a Kuder–Richardson reliability coefficient (KR–20) of 0.82, indicating high internal consistency.

To examine the construct validity of the instrument, an exploratory factor analysis (EFA) with varimax rotation was conducted on the ten items. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was 0.868, indicating very good sampling adequacy, and Bartlett's test of sphericity was significant ($\chi^2 = 149.67$, $df = 45$, $p < .001$), suggesting that the data were suitable for factor analysis. The results revealed a three-factor structure broadly corresponding to the theoretical domains of conceptual understanding, reasoning logic, and critical decision-making.

The EFA results broadly supported the theoretical three-domain structure of digital communicative literacy, although several items showed moderate cross-loadings. Given the exploratory and diagnostic nature of the instrument, the factor solution was interpreted primarily in relation to the theoretical framework. Item analysis indicated acceptable difficulty and discrimination indices (ranging 0.19–0.93 and 0.25–0.48 respectively), confirming that all items were valid and educationally appropriate for assessing reflective reasoning skills (Padden, 2013).

The instrument was designed as a concise diagnostic assessment tool intended to capture students' applied reasoning and decision-making when encountering misinformation. This diagnostic instrument was designed for classroom-based reflection and formative feedback, enabling teachers to identify students' reasoning gaps in digital literacy learning.

2.5. Data Collection Procedures

Given this educational context, data collection was embedded within classroom activities as part of the school's digital literacy enrichment program. Data collection was conducted in a controlled classroom environment during regular school hours under teacher supervision. Participants were informed of the study's educational purpose, to understand students' experiences in identifying and responding to digital misinformation.

The researcher provided instructions emphasizing that the activity was not an examination, but an opportunity for self-reflection on digital decision-making skills. The average completion time was 30 minutes. Responses were collected anonymously using paper-based questionnaires, and no identifying information was requested.

The instrument comprised three cognitive domains aligned with the Digital Communicative Literacy framework:

Table 1. Structure of the Structured Cognitive Test and Measured Constructs

Domain	Item Codes	Question	Construct Measured
Conceptual Understanding	Q1	What is the correct definition of a hoax?	Recognition of definitions, typologies, and conceptual features
	Q2	The following are types of hoaxes, except:	

	Q3	Which of the following represents the characteristics of a hoax?	of hoaxes and mental-health misinformation
	Q8	Which of the following is a sign that someone may be experiencing a mental health disorder?	
Logical Reasoning	Q5	The following are effects of exposure to hoax content on social media, except:	Evaluation of reasoning and evidence quality in online content
	Q6	Mental health problems resulting from social-media hoaxes may lead to:	
	Q9	The following are reasons why hoaxes spread rapidly on social media, except:	
	Q10	Examine the image of an official letter below. This letter, bearing a government logo, is actually a hoax. Identify what seems odd or inconsistent about this letter.	
Decision-Making	Q4	Among the following, which is not a strategy for preventing the spread of hoaxes?	Selection of appropriate actions and preventive behaviors when facing potential hoaxes
	Q7	Which of the following media platforms is least likely to be used for spreading hoaxes?	

As shown in Table 1, there are 10 multiple-choice questions namely Structured Cognitive Test. Each question in the test was presented in a multiple-choice format with four response options (A, B, C, D). Only one option represented the correct answer, while the remaining three served as distractors. Respondents were instructed to select the answer they believed to be correct. Each correct response was scored 1, and each incorrect response 0. Consequently, total scores ranged from 0 to 10, with higher scores indicating stronger cognitive literacy regarding the recognition, reasoning, and decision-making processes toward social-media hoaxes. Items were constructed based on existing literature on fake news cognition (Bandura, 2009; Southwell et al., 2022; Zirbel, 2009) and adolescent media literacy. Data collection occurred in July 2024 after school administration approval. Students completed the tests during school hours under supervision.

The questionnaire employed the term “hoax,” a commonly used expression in Indonesian digital culture to describe misleading online information. For analytical purposes, this study interprets “hoax” within the broader framework of misinformation discussed in media literacy research. The items were formulated to simulate everyday social media scenarios that vocational students commonly encounter online.

2.6. Data Analysis

Descriptive and inferential statistical analyses were performed using SPSS (Version 26). Descriptive statistics summarized participants’ DCL scores across the three domains, while inferential tests explored associations between demographic variables and literacy levels. First, independent sample t-tests were used to assess gender-based differences. Second, spearman rank correlations examined associations between social media usage duration and DCL scores. Third, chi-square tests analyzed categorical relationships between literacy levels (high, moderate, low) and demographic factors.

Additionally, a post-hoc statistical power analysis was conducted to verify adequacy of the sample size, yielding a power coefficient of 0.82—considered acceptable for exploratory educational

assessment studies (Cohen, 1992). All findings were interpreted in light of the study's educational objectives, emphasizing implications for curriculum improvement, teaching strategies, and media literacy policy in vocational education. Beyond statistical interpretation, the analysis sought to identify patterns that can inform pedagogical interventions for digital literacy instruction in vocational settings.

2.7. Ethical Considerations

This study adhered to ethical principles for educational research with minors and received retrospective ethical clearance from Universitas Singaperbangsa Karawang, verifying compliance with Declaration of Helsinki (2013) and American Psychological Association (APA, 2020) guidelines for research with adolescents. Retrospective approval was needed as data were collected during classroom-based digital literacy assessment within regular instruction, not as a formal experiment. Before participation, students and their parents/guardians were informed of the study's aims, voluntary nature, and confidentiality protocols. Written informed consent was obtained from guardians, and assent from students. Participants were assured their academic standing and evaluations would not be affected by participation or withdrawal.

Data were collected anonymously without personally identifiable information. Response sheets were coded numerically, stored in encrypted folders, and accessed only by the principal investigator. To minimize risk, classroom discussions focused on media literacy rather than personal psychological experiences. The research team provided teachers with a debriefing module to help students discuss misinformation supportively. These safeguards protected student welfare, privacy, and dignity throughout data collection and analysis. The retrospective verification confirmed no harm occurred and procedures aligned with ethical standards for educational assessment research.

3. RESULT AND DISCUSSION

3.1. Demographic Characteristics of Respondents

The research respondents were vocational students at Vocational High School of An-Nur, West Java Province, Indonesia, totaling 100. Most respondents were 15 years old (69%). 14-year-old respondents were 10%, 16-year-olds 18%, and 17-year-olds 3%. Male respondents comprised 51% and females 49%. Despite being teenagers, respondents frequently accessed social media. The research shows 69% of vocational students accessed social media for over three hours daily, while 31% accessed it for 1-3 hours per day. Of the total, 17% accessed social media for more than seven hours daily. These data show how freely vocational students use social media. The most accessed platforms were TikTok (62%), Instagram (30%), Youtube (6%), and others (2%).

3.2. Overview of Digital Communicative Literacy (DCL)

The diagnostic assessment revealed that the majority of vocational students demonstrated moderate levels of digital communicative literacy (DCL). From the perspective of Digital DCL, this finding indicates that students' competencies remain uneven across domains, with stronger performance in conceptual understanding but notable limitations in reasoning logic and critical decision-making. The average total score was M = 6.21, SD = 1.48 out of a maximum of 10. While students showed general conceptual awareness of misinformation, their reasoning and decision-making skills appeared comparatively weaker.

Table 2. Descriptive Statistics of DCL Scores

DCL Domain	Mean (M)	SD	Category
Conceptual Understanding	2.65	0.56	High

Reasoning Logic	2.02	0.69	Moderate
Critical Decision-Making	1.54	0.73	Low
Total DCL Score	6.21	1.48	Moderate

To provide a deeper understanding, students' DCL performance was analyzed across three domains as shown in Table 2. First, Conceptual Understanding. Students scored highest in the Conceptual Understanding domain (M = 2.65, SD = 0.56). Most participants could correctly identify basic features of hoaxes, differentiate between credible and misleading information, and recognize emotional manipulation in headlines. This finding reflects a dominance of the conceptual understanding domain in DCL, suggesting that students' literacy remains at the level of recognition rather than progressing toward deeper reasoning and communicative action. This indicates that vocational students possess surface-level digital awareness, likely shaped by exposure to digital safety messages commonly taught in "Informatics" or "Civic Education" courses.

However, such conceptual literacy tends to remain declarative rather than procedural, they can define and detect hoaxes but may not consistently apply these concepts in dynamic social media contexts. Pedagogically, this suggests that current digital literacy education emphasizes recognition over reasoning. Teachers may need to integrate scenario-based exercises that challenge students to apply conceptual knowledge in authentic digital dilemma

Second, reasoning logic. The Reasoning Logic domain produced an intermediate mean score (M = 2.02, SD = 0.69). Students often struggled to evaluate the internal consistency of messages, such as detecting illogical arguments or identifying emotional bias in viral content.

This weakness reflects a gap in cognitive reasoning rather than knowledge recall. In line with Mihailidis (2018), such gaps arise when digital learning environments focus on technological proficiency but neglect critical dialogic reasoning. Students might know what a hoax is but not why people share it or how to question its purpose.

From an educational perspective, strengthening reasoning literacy requires shifting from individual memorization to collaborative discussion pedagogy—for example, classroom debates on misinformation, peer-led verification tasks, or reflection journals analyzing viral news credibility.

Third, Critical Decision-Making. Scores in Critical Decision-Making were the lowest (M = 1.54, SD = 0.73), revealing significant challenges in ethical judgment and reflective action when encountering misinformation. This result highlights a critical weakness in the decision-making domain of DCL, where students struggle to translate cognitive evaluation into communicative action. Many students could identify hoaxes but failed to decide appropriately whether to ignore, verify, or respond to them responsibly.

This finding echoes Hobbs'(2017) argument that media literacy must culminate in reflective action. For vocational students—who will soon engage in workplace communication—this deficiency highlights the urgency of integrating digital ethics education into vocational curricula. Students need structured opportunities to practice digital empathy, responsibility, and response strategies when faced with misleading content.

In teaching terms, decision-making literacy can be strengthened through guided reflection exercises, such as simulated hoax-response role plays or ethical dilemma case studies embedded in classroom instruction.

3.3. Gender Differences

Independent-sample t-tests revealed a small but significant difference in DCL scores between male and female students, t(98) = 2.11, p = .037. Female participants (M = 6.47, SD = 1.32) slightly outperformed male participants (M = 5.92, SD = 1.51), particularly in the Critical Decision-Making

domain. This aligns with studies suggesting that female students often exhibit stronger reflexivity and empathetic reasoning in communicative decision-making (Sonia Livingstone & Third, 2017; Mihailidis, 2018). Pedagogically, these differences encourage gender-responsive digital literacy instruction, where educators facilitate both analytical and empathetic reasoning skills across genders.

3.4. Association Between Social Media Use and DCL

A Spearman correlation showed a moderate negative association between social media usage duration and overall DCL ($r = -.36$, $p < .01$). Students who reported spending more than four hours daily on social media tended to score lower, especially in reasoning and decision-making. This finding indicates that prolonged exposure to social media may hinder the development of reasoning logic and decision-making domains within DCL. This supports the *exposure paradox* in digital education (Potter, 2021): more time online does not guarantee deeper literacy. Instead, passive scrolling without critical engagement may erode attention and reflective thinking. For educators, this highlights the need to promote guided reflective use of digital platforms, turning habitual scrolling into intentional learning moments.

3.5. Cross-Domain Correlations

Significant positive correlations emerged between conceptual understanding and reasoning logic ($r = .41$, $p < .001$), and between reasoning logic and decision-making ($r = .47$, $p < .001$). The weaker correlation between conceptual understanding and decision-making ($r = .28$, $p < .05$) suggests that knowledge does not automatically translate into ethical behavior. This reinforces the need for integrated pedagogical interventions that combine conceptual instruction with moral reasoning and communicative empathy—key competencies in digital citizenship education.

3.6. Pedagogical Interpretation of Quantitative Findings

The quantitative results reveal that vocational students demonstrate uneven digital communicative literacy (DCL) across the three domains—conceptual understanding, reasoning logic, and critical decision-making. From a pedagogical standpoint, this imbalance indicates that while current classroom instruction effectively promotes awareness of what misinformation is, it remains less successful in developing how students reason about and respond to it.

Teachers in vocational schools appear to emphasize digital safety and content recognition—skills that correspond to Conceptual Understanding—yet reasoning and ethical decision-making require more dialogic and experiential approaches. Students can often define a hoax but struggle to justify why it is misleading or what responsible action to take. This gap reflects a structural issue in digital literacy education, where knowledge transmission outweighs reflective participation.

For educators, the implication is clear: digital literacy instruction must evolve from declarative teaching to reflexive learning. Classroom-based activities such as guided debates on viral misinformation, reflective journals on online experiences, or simulation-based role plays could transform cognitive awareness into communicative agency. These practices nurture self-efficacy and moral judgment, core elements of critical media literacy (Hobbs, 2017).

The gender-based differences found in this study also have pedagogical relevance. Female students' higher scores in decision-making suggest greater empathic engagement, while male students' lower reflexivity indicates potential gaps in ethical reasoning. Such insights encourage teachers to apply gender-responsive learning strategies, ensuring that both analytic and empathetic reasoning styles are equally valued and cultivated (Bindu Kenth, 2011).

The negative correlation between social media duration and DCL further emphasizes the exposure paradox—that more time online does not necessarily enhance literacy. This invites

reflection on classroom practices: instead of framing social media merely as distraction, educators can help students transform habitual scrolling into critical inquiry. Structured reflection, such as analyzing how a trending video shapes perception or emotion, can turn exposure into learning.

Taken together, these pedagogical insights underscore that digital communicative literacy should not be confined to isolated media lessons. Instead, it must be integrated across the vocational curriculum as an applied competence, preparing students to navigate misinformation in both their academic and future professional communication contexts. By interpreting quantitative outcomes through an educational lens, teachers gain a practical roadmap for cultivating critical, ethical, and communicative learners—an essential goal of media literacy education in vocational settings.

3.7. Interpreting the Diagnostic Findings

The findings highlight a paradox within Indonesia's vocational education landscape: vocational students are digitally immersed but communicatively vulnerable. Nearly 70% of participants reported spending more than three hours daily on social media, primarily TikTok and Instagram. This intensive exposure reflects the central role of social media in adolescents' everyday communication practices (Keijzer et al., 2022). Yet, as the results demonstrate, prolonged exposure to such environments does not necessarily foster digital resilience.

Although students demonstrate moderate conceptual understanding of misinformation characteristics, their reasoning and decision-making skills remain weaker. This pattern reflects findings from recent studies indicating that media literacy interventions tend to improve recognition of misinformation, but do not necessarily strengthen deeper reasoning and evaluative capacities (Castillo et al., 2026). They can define a hoax but struggle to interrogate its motives, evaluate its logic, or decide how to respond. This "knowledge–action gap" aligns with Hobbs' (2017) notion of reflective deficit in digital literacy, where recognition of misinformation does not translate into communicative agency.

Moreover, the moderate gender variation in performance, female students showed slightly higher scores, particularly in decision-making tasks. While the differences were modest, this pattern suggests the need for further research on how gender may shape digital literacy development among adolescents. Echoing Livingstone (2013), this may reflect how girls engage more relationally and empathetically in online interactions, while boys engage more impulsively or instrumentally. This implies that gender-responsive pedagogy is crucial, allowing all learners to cultivate reflective reasoning and ethical digital engagement.

The negative correlation between daily social media use and DCL performance also supports Potter's (2021) "exposure paradox": greater digital exposure may diminish reflective judgment. Students in this study often described social media as a "mental break" rather than a learning environment—illustrating the cognitive overload that hinders analytic processing (Misra & Stokols, 2012). In effect, students' digital familiarity coexists with low reflective efficacy, a tension that must be addressed through educational design. Some students also reported feeling confused or overwhelmed when encountering misleading online information. Although this study did not measure psychological outcomes directly, such responses suggest that misinformation may contribute to cognitive strain in adolescents' digital experiences. From a DCL perspective, this reflects a disruption in the progression from conceptual understanding to communicative agency. Ultimately, this study affirms that digital communicative literacy is not only cognitive competence but ethical citizenship.

3.8. Educational Implications for Digital Literacy Pedagogy

The results underscore a need to reframe digital literacy education in vocational contexts from technical competence to reflective communicative engagement. Current digital instruction within the Merdeka Curriculum emphasizes informational awareness—"knowing what a hoax is"—but rarely cultivates reasoned action or ethical reflection.

In classroom practice, this manifests as declarative learning: students can recall definitions but cannot apply them to real media dilemmas. Echoing Buckingham (2019), critical literacy must extend beyond information recognition toward agency—the ability to act, respond, and teach others. In this sense, media literacy cannot be merely cognitive; it must be performative and dialogic.

Three pedagogical transformations emerge from this study. (1) Scenario-based reasoning tasks – embedding authentic social media cases into lessons to let students practice distinguishing bias, emotion, and manipulation; (2) Collaborative verification exercises – group discussions or peer-led fact-checking that simulate collective reasoning in digital spaces; and (3) Ethical reflection and response projects – encouraging students to journal or role-play ethical responses to misinformation, strengthening moral imagination and empathy (Massey et al., 2021).

Such approaches align with Mihailidis (2018) vision of civic media literacy, where learners become reflective communicators capable of ethical participation in the digital public sphere. For vocational students, these reflective competencies are not only academic goals but professional assets, equipping them to navigate future workplaces where digital misinformation can affect productivity, reputation, and public trust.

The findings of this study reinforce the need for pedagogical approaches that move beyond theoretical media literacy instruction toward practice-based learning. Although students demonstrate moderate conceptual understanding, their limited reasoning and decision-making abilities when confronting misleading online content suggest that digital literacy education must incorporate experiential learning strategies. Classroom activities such as scenario-based hoax analysis, collaborative fact-checking, and ethical response exercises may help strengthen students' evaluative judgment when encountering emotionally persuasive misinformation.

3.9. Toward Cognitive Resilience and Communicative Self-Efficacy

At a theoretical level, the study validates the Digital Communicative Literacy (DCL) framework as a progressive model integrating conceptual understanding, reasoning logic, and critical decision-making—three domains that together nurture communicative self-efficacy (Bandura, 1994).

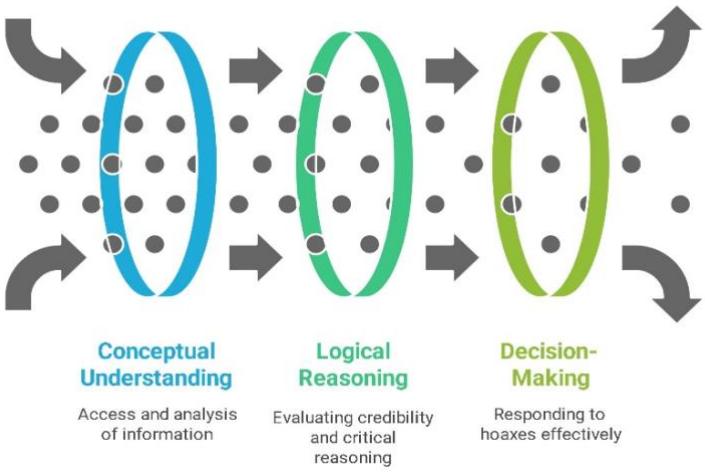

Figure 2. Digital Communicative Self-Efficacy Model

As shown in Figure 2 (Digital Communicative Self-Efficacy Model), the process begins with recognizing misinformation structures, followed by evaluating logic and emotional cues, and culminating in acting, choosing to ignore, refute, or critically engage. This sequence represents a developmental continuum from cognition to ethical agency. However, the findings of this study indicate that this progression is often disrupted at the transition between reasoning and action, where students demonstrate hesitation or inability to respond appropriately. This suggests that communicative self-efficacy is not automatically derived from cognitive understanding, but depends on the development of reflective confidence and ethical judgment.

In practice, many vocational students remain unable to translate evaluation into action. They can evaluate but hesitate to act, remaining silent or even sharing misinformation out of peer conformity. This echoes the communication inequality framework (Viswanath & Emmons, 2006), where power differentials in digital spaces shape who can speak, interpret, and act on information. True media literacy, therefore, requires empowerment-oriented education, enabling students not only to think critically but to act communicatively with confidence and empathy.

Building this form of digital communicative self-efficacy demands pedagogical environments that legitimize students' voices, encourage moral reasoning, and normalize doubt as a component of learning. Reflective questioning ("Why would someone share this?" or "How might others feel about this post?") can transform classrooms into spaces for ethical experimentation. When teachers facilitate such inquiry, students internalize digital ethics as part of their communicative identity rather than as external instruction.

Ultimately, this study affirms that digital communicative literacy is not only cognitive competence but ethical citizenship. Vocational students' ability to resist misinformation depends less on how much they know and more on how they reason, reflect, and respond.

For educators and policymakers, these findings suggest a shift in digital education priorities: from informing about hoaxes toward empowering communicative agency. By embedding reflective reasoning, empathy, and ethical dialogue within vocational curricula, educators can help students transform digital participation from passive consumption into conscious, responsible, and resilient engagement with media. In this sense, digital literacy can be understood not only as a cognitive skill but also as a form of responsible participation in digital communication environments.

4. CONCLUSION

This study expands the discourse of media literacy education by introducing Digital Communicative Literacy (DCL) as both a theoretical model and an educational diagnostic tool for vocational students in Indonesia. The findings reveal that while students demonstrate moderate conceptual awareness of misinformation, they lack reflective reasoning and ethical decision-making skills—signifying a disconnection between knowing and acting in digital environments.

By articulating DCL through three domains—conceptual understanding, reasoning logic, and critical decision-making—this research situates media literacy as a process of cognitive resilience and communicative self-efficacy (Bandura, 1994; Hobbs, 2017). In this framework, students learn not only to identify misinformation but to reason through it and respond with ethical judgment. Such transformative learning is essential for preparing vocational students to become responsible communicators in their professional and civic lives.

At the classroom level, educators should move beyond didactic instruction toward reflective engagement. Integrating scenario-based reasoning, collaborative verification, and ethical reflection exercises allows students to apply DCL principles to real digital dilemmas. Teacher training

programs should therefore emphasize facilitation of critical dialogue and empathy-driven discussion rather than mere content delivery.

At the curricular level, the DCL framework can be embedded across subjects—especially in "Civic Education" and "Informatics"—as part of Indonesia's Merdeka Curriculum. This integration ensures that digital ethics and communicative reasoning are developed alongside technical skills.At the policy level, the study supports positioning digital literacy as a core component of national civic education. Cross-sector collaboration among ministries, educational institutions, and media organizations can institutionalize standards for evaluating misinformation literacy, while supporting educators with pedagogical resources and partnerships with fact-checking initiatives.

In sum, digital communicative literacy is both a learning outcome and a civic virtue. Strengthening it requires a shift from informational awareness to reflective action—empowering young people not just to consume media critically, but to participate ethically and confidently in shaping the digital public sphere.

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