



PARTICIPATORY COMMUNICATION IN DIGITAL ETHICS EDUCATION: A MIXED-METHODS STUDY OF ADULT LEARNERS IN NORTH JAKARTA

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Abstract. The expansion of digital participation has intensified ethical challenges related to misinformation, privacy, responsible communication, and digital citizenship. This study examined participatory communication as a dialogue-based approach to digital ethics education in a community-based learning setting. A convergent mixed-methods, single-group design was employed with 30 adult women in North Jakarta, Indonesia, without a comparison group. The digital ethics education program comprised three 40-minute sessions (120 minutes total), and all 30 participants were interviewed using individual and group formats after the sessions. Quantitative data were collected through post-intervention questionnaires ($n = 30$) and paired pretest–posttest assessments ($n = 5$), while qualitative evidence was obtained from open-ended responses, semi-structured interviews, and observations. The findings suggested that participants' primary learning needs concerned ethical digital practices rather than technological access. Participant feedback and observations indicated a dialogical learning environment characterized by two-way interaction, contextual discussion, experience sharing, and reflection. Twenty-nine of the 30 participants (96.7%) agreed or strongly agreed that two-way interaction occurred. Three interconnected themes of perceived learning were identified: critical information evaluation, ethical responsibility, and intentions to share digital ethics knowledge within families and communities. Among five volunteers (5/30), mean test scores increased from 5.6/10 to 10/10; all five achieved the maximum posttest score. Given post-only self-reports and five paired assessments, the study cannot establish causal effects or sustained behavioral change. The study suggests that participatory communication may support the development of ethical digital awareness by connecting lived digital experience with collective reflection in community-based learning environments.

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INTRODUCTION

The rapid development of digital technologies and the widespread adoption of social media platforms have fundamentally transformed how individuals and communities communicate, access information, and participate in social life. Digital platforms provide significant opportunities for social connectivity, knowledge exchange, civic participation, and community engagement. However, increased digital participation has also introduced complex ethical challenges related to privacy, misinformation, data governance, identity manipulation, and responsible online behavior. Studies of digital data collection, including research involving social media platforms, have highlighted privacy protection and the ethical management of personal information as important concerns (Facca et al., 2020; Nebeker et al., 2020).

These challenges indicate that digital access alone does not automatically lead to ethical digital behavior. Contemporary research has therefore expanded the concept of digital literacy from a technical competency toward a multidimensional capability involving critical thinking, ethical awareness, and responsible participation. Early approaches to digital literacy primarily emphasized functional skills, such as operating devices and accessing online information. However, current frameworks increasingly recognize that digital competence requires the ability

to use digital technologies effectively, critically, creatively, ethically, and reflectively (Khateeb, 2023). Digital literacy education is now closely connected with digital citizenship, where ethical behavior, privacy awareness, critical information evaluation, and responsible participation are considered essential competencies rather than additional skills (Dai, 2024; Milyane et al., 2023).

Despite this conceptual development, a major research problem remains: many communities experience a gap between digital engagement and ethical digital awareness. Adult communities represent an important context because they increasingly use digital platforms for communication, information exchange, family interaction, and community activities. Nevertheless, adult digital literacy cannot be understood only as the acquisition of technical skills. Research on adult education emphasizes that learning among adults is influenced by psychological, social, and cultural contexts, requiring approaches that develop critical consciousness and meaningful participation rather than simple knowledge transfer (Wijayanti & Sanyata, 2024; Zubaidi et al., 2026). Community-based learning environments provide important spaces for this process because they allow learners to connect digital challenges with their everyday experiences and social realities (Nurhayati et al., 2021).

The central challenge in digital ethics education is that conventional information-transfer approaches often fail to produce sustainable awareness and behavioral change. Many digital literacy initiatives focus primarily on teaching users how to operate technologies, while giving less attention to how individuals should critically evaluate information, understand ethical consequences, and act responsibly in digital environments. Previous studies have argued that technical fluency does not automatically produce ethical competence. Even experienced digital users may lack awareness regarding privacy, data rights, misinformation, and responsible online participation (Rehak, 2022). Therefore, digital ethics education requires a pedagogical shift from transmitting information toward facilitating reflection, dialogue, and transformation.

A growing body of literature suggests that adult and community-based digital education requires participatory, experiential, and socially embedded approaches. Adult learning research demonstrates that sustainable digital awareness emerges when learners actively engage with problems relevant to their lived experiences. Community-based education structures provide opportunities for collective meaning-making, peer exchange, and critical reflection rather than passive reception of information (Durnali & Ocak, 2023). Similarly, studies of adult digital literacy highlight the importance of experiential learning, collaborative approaches, and problem-based activities in developing digital citizenship competencies (Rațiu et al., 2023; Taufikin et al., 2026). These findings suggest that digital ethics education should position learners as active participants who construct knowledge through interaction and reflection.

One approach that aligns with this requirement is participatory communication. Participatory communication challenges traditional top-down models by positioning communities as active contributors in knowledge construction rather than passive recipients of expert information. Rooted in critical pedagogy and communication for social change traditions, participatory communication emphasizes dialogue, horizontal relationships, empowerment, and collective understanding. Freire's (1970) concept of critical consciousness highlights that meaningful learning occurs when individuals reflect upon their realities and become capable of transforming their circumstances. Similarly, participatory communication scholarship demonstrates that communities develop stronger agency when their experiences and perspectives become central to the learning process (Nurhayati et al., 2025; Sáez et al., 2022).

Within educational contexts, participatory communication provides a conceptual perspective for examining how dialogue and reflection relate to learners' understanding of digital ethics. Through dialogue, learners are encouraged to examine their assumptions, discuss real-life experiences, and construct shared meanings. In the present study, participatory communication is examined through observable and reported features of the learning process, including two-way interaction, discussion of everyday digital dilemmas, exchange of personal experiences, and opportunities for collective reflection. These features provide a basis for exploring participants' interpretations of digital ethics learning without assuming that the communication process independently produces sustained changes in digital behavior.



Although previous studies have explored digital literacy, digital citizenship, adult education, and participatory communication separately, there is value in examining how adult community learners experience participatory communication within digital ethics education and how they interpret its relevance to ethical digital awareness. Existing literature connects digital literacy with ethical awareness and critical participation, while adult learning studies emphasize the importance of reflective and socially embedded approaches. However, additional context-specific evidence is needed regarding how adult learners describe participatory learning processes and their perceived relevance to understanding responsible digital practices. Therefore, this study aims to explore the implementation and perceived contributions of participatory communication within a community-based digital ethics education program for adult learners in North Jakarta, Indonesia. Specifically, this study addresses three questions: (1) How is participatory communication implemented in digital ethics education? (2) What changes in digital ethics awareness do participants report following the educational program? and (3) How do participants perceive the contribution of participatory communication processes to their understanding of responsible digital practices? By addressing these questions, this study contributes to the growing field of digital citizenship and community education by providing a context-specific account of participatory learning experiences, participants' perceived ethical awareness, and their interpretations of responsible digital practices, rather than claiming demonstrated causal effects or sustained behavioral transformation.

RESEARCH METHODS

Research Design

This study employed a convergent, single-group mixed-methods program evaluation to examine participatory communication in community-based digital ethics education. Quantitative and qualitative data were gathered around the same intervention, analyzed separately, and integrated during interpretation. The quantitative strand comprised a post-seminar questionnaire completed by 30 participants and paired pretest–posttest assessments completed by five volunteers. Qualitative data included observations during instruction, open-ended questionnaire responses, and individual and group interviews afterward. Interviews were not selected or sequenced based on earlier statistical findings. Integration compared survey patterns, participants' reflections, and observed interactions. Without a comparison group or follow-up assessment, the design cannot establish causal effects or sustained behavioral changes.

Research Setting and Participants

The study was conducted from February to June 2026 in Kelapa Gading Barat, North Jakarta, Indonesia. Thirty women were recruited purposively for the study through local Pemberdayaan Kesejahteraan Keluarga (PKK) coordinators because of their community participation and regular use of social media for family and social communication. Participants were 38–82 years old, with varied education and occupations; 26 reported homemaking among their roles. The demographic characteristics of the participants, including gender, age, education, occupation, and most used social media platforms, are presented in [Table 1](#). This female-only, nonprobability sample limits transferability beyond comparable community settings. All 30 completed the post-intervention questionnaire and participated in interviews. Five voluntarily completed both pretest and posttest; the remaining 25 declined paired assessment.



Table 1. Demographic Characteristics of Participants

Characteristic	Category	n	%
Gender	Female	30	100
Age	38–50 years	7	23.3
	51–60 years	13	43.3
	61–82 years	10	33.3
Education	Junior secondary school (SMP)	1	3.3
	Senior secondary school (SMA)	16	53.3
	Academy qualification	1	3.3
	Diploma (D3)	1	3.3
	Bachelor's degree (S1)	10	33.3
	Master's degree (S2)	1	3.3
Occupation	Housewives	26	86.7
	Retired	3	10.0
	Yoga/Pilates instructor	1	3.3
Most Used Social media platforms	WhatsApp	29	96.7
	TikTok	28	93.3
	Facebook	17	56.7
	Instagram	16	53.3
	Other platforms	5	16.7

Note. Percentages of most used social media platforms were calculated based on the total number of participants (N = 30). Multiple responses were permitted; therefore, the cumulative percentage exceeds 100%.

Digital Ethics Education Intervention

The face-to-face seminar conducted on 8 April 2026 comprised three consecutive 40-minute sessions (120 minutes total), involving the same group of 30 learners. Communication specialist Sutjiati Octavia, M.Sc., who was not a manuscript author, facilitated the program. First author Sumartini Puspa Dewi attended as researcher and observer, not instructor. The procedural phases of preparation, implementation, and evaluation were distinct from the three instructional sessions. Preparation included arranging instructional slides and contextual cases. Content addressed misinformation, source verification, protection of personal data, responsible posting, respectful online disagreement, permission before sharing photographs, and digital regulations. The facilitator used presentations, concrete social-media scenarios, discussion, questions, and experience-sharing activities. Participants were encouraged to propose responses to ethical dilemmas and consider differing viewpoints. Observation occurred during teaching; questionnaires and interviews followed on the same day.

Data Collection Instruments

After the seminar, participants completed a questionnaire containing 32 closed-ended items using a five-point Likert scale: strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). The present analysis used 29 items covering instructional materials (4), facilitator competence and interaction (8), digital literacy (4), social-media ethics (10), seminar organization (2), and overall program benefits (1). Three additional religiosity items were excluded from the main analysis because they fell outside the research questions. Sample statements addressed whether two-way interaction occurred during the seminar, whether respondents verified information before sharing it, and whether they exercised caution when sharing personal photographs or data. Open-ended prompts elicited newly acquired knowledge and feedback. Two doctoral-level experts in community education reviewed and approved the questionnaire for content validity. Preliminary testing with a limited group led to revisions of selected items. Cronbach's alpha for the questionnaire was reported as 0.78, exceeding the conventional 0.70 criterion for acceptable internal consistency.

A separate ten-item, four-option assessment reflected seminar content on information verification, privacy, online responsibility, appropriate interaction, and digital regulations. Five volunteers answered identical questions before and after the intervention on 8 April 2026. Sumartini awarded one point for each keyed answer and zero otherwise (total range: 0–10). One



question addressed self-reported familiarity with the ITE Law rather than objective knowledge. Twenty-five participants declined paired testing.

After all three sessions, all 30 participants were interviewed using a combination of individual and group formats. The interview guide addressed seminar quality, facilitator communication, prior knowledge, ethical and unethical online behavior, and perceived learning. The authors conducted the interviews and documented responses in written notes rather than audio recordings. The observation guide addressed instructional clarity, two-way interaction, case relevance, media use, and responses to questions. Attendance records and activity photographs provided supporting documentation.

Data Analysis

Questionnaire items were summarized using frequencies and percentages. Paired assessment scores were compared descriptively without inferential testing; self-selection, the small subgroup, identical questions, and immediate testing restricted interpretation. Written interview notes, open-ended responses, and observation records underwent inductive thematic analysis. Sumartini and the co-authors familiarized themselves with the data, identified meaningful statements, developed data-driven codes, grouped related codes, and constructed themes without imposing predetermined theoretical categories. Differences in coding and interpretation were discussed until consensus was reached. The themes are presented in Results and Discussion rather than specified in advance. Qualitative evidence was compared with questionnaire patterns during interpretation. Participants' stated intentions were not treated as verified long-term behavioral change.

Research Ethics

The study followed the guidelines from the Research Ethics Committee of IKIP Siliwangi. All 30 participants provided verbal informed consent to participate in the interviews and permit their responses to be used for research purposes. Participants' identifying information was masked during data analysis and reporting to protect confidentiality. The educational intervention was facilitated by Sutjiati Octavia, M.Sc., an external communication specialist who was not among the manuscript authors. The authors were responsible for research observation and interviews and did not serve as the seminar facilitators.

RESULTS AND DISCUSSION

Entering the Digital Ethics Learning Space: Community Learners and Their Digital Realities

The study involved 30 adult community learners participating in a digital ethics education program within a community-based learning setting. The participants represented diverse backgrounds and digital experiences, reflecting the heterogeneous nature of community learning environments. The findings revealed that social media had become embedded in participants' everyday communication practices. Digital platforms were used for maintaining social relationships, accessing information, and participating in community interactions. However, the widespread use of digital platforms was not always accompanied by sufficient awareness regarding ethical responsibilities in digital environments. The learning needs identified among participants were not primarily related to technology access, but rather to the ability to navigate digital spaces responsibly. The learning needs summarized in [Table 2](#) were identified through qualitative examination of post-seminar open-ended questionnaire responses and observation records collected during the educational program involving 30 participants. All 30 participants completed the questionnaire. The analysis focused on recurring concerns regarding information credibility, respectful online communication, responsibility for shared content, and personal data protection. These categories represent learning needs identified retrospectively from participants' reflections and observed interactions rather than needs established through a formal pre-intervention baseline assessment. Several concerns emerged, including uncertainty in evaluating information credibility, limited awareness of privacy boundaries, and the need to understand the consequences of online communication. This condition highlights that digital ethics education



requires an approach that moves beyond technical digital literacy toward the development of critical awareness and responsible digital behavior.

Table 2. Digital Ethics Learning Needs Identified among Community Learners

Digital Practice	Emerging Learning Needs
Receiving and sharing information	Ability to verify information credibility before dissemination
Online interaction	Awareness of respectful and responsible communication
Content creation and distribution	Understanding consequences of digital actions
Personal information sharing	Awareness of privacy protection

The findings in [Table 2](#) show that the participants' primary learning needs were not related to access to digital technology, but to the ethical use of digital environments. The four areas identified—information verification, responsible communication, awareness of the consequences of content sharing, and privacy protection—indicate that the central problem was one of ethical competence rather than technical exclusion. This distinction is important because much early digital literacy literature focused on functional access and technological skills, whereas more recent work emphasizes critical thinking, ethical participation, and responsibility.

The present findings are therefore consistent with broader digital citizenship literature that treats digital competence as multidimensional. Culcasi et al. (2025), for example, position privacy, participation, critical thinking, and responsible digital behavior as interconnected dimensions of digital citizenship, while Zheng (2026) separates awareness of digital rights from responsibility behavior. The present study extends this logic to an adult community context by showing that active social media use can coexist with uncertainty about ethical judgment. This also aligns with Takavarasha et al. (2018), whose study in South Africa found that technical digital literacy did not automatically translate into digital citizenship. However, [Table 2](#) should not be interpreted as demonstrating a universal digital ethics deficit. It reflects needs identified in one specific community setting. Its value lies in showing that digital ethics education should begin by diagnosing how participants actually engage with information, privacy, and communication, rather than assuming that one standardized digital literacy curriculum is appropriate for all learners.

Constructing a Dialogical Learning Environment through Participatory Communication

The observed participatory learning process began with the reconstruction of the learning environment itself. Rather than positioning participants as passive recipients of digital ethics information, the program created a dialogical space where participants' experiences, concerns, and everyday digital practices became sources of collective learning. The facilitator functioned not only as a knowledge provider but also as a learning partner who encouraged discussion, reflection, and experience sharing. Participants were invited to analyze real-life social media cases, discuss ethical dilemmas, and relate digital ethics principles to their own communication practices. The post-seminar quantitative ratings were consistent with, but could not independently establish, this finding. Participants consistently perceived the communication process positively, particularly regarding facilitator competence, relevance of materials, and interaction quality. The observation findings reinforced these perceptions. Participants actively engaged in discussions, raised questions, requested additional examples, and shared personal experiences related to social media use. These findings suggest that the program provided a learning environment characterized by interaction, openness, and shared meaning-making. An open-ended questionnaire response described the facilitator's delivery as "menarik, dua arah, interaktif" (engaging, two-way, and interactive). Similarly, the observation summary recorded "Banyak pertanyaan dari partisipan" (many questions from participants) and "Partisipan meminta banyak contoh kasus" (participants requested numerous case examples). These accounts provide qualitative evidence of perceived interactivity and observed engagement. However, they do not establish that participants' digital behavior changed after the seminar.



Table 3. Participants' Evaluation of Participatory Communication Implementation: Full Response Distribution and Descriptive Statistics (n = 30)

Evaluation Dimension	SDg	D	N	A	SA	Mean	SD
Materials clear and understandable	0	0	0	18	12	4.40	0.50
Materials relevant to needs	0	0	0	17	13	4.43	0.50
Materials support family/community understanding	0	0	0	20	10	4.33	0.48
Facilitator demonstrates mastery	0	0	0	9	21	4.70	0.47
Facilitator explains clearly	0	0	0	13	17	4.57	0.50
Facilitator uses concrete examples	0	0	0	15	15	4.50	0.51
Two-way interaction occurred	0	0	1	15	14	4.43	0.57

Note. SDg = Strongly Disagree; D = Disagree; N = Neutral; A = Agree; SA = Strongly Agree. Response-category values are frequencies. All items were rated on a five-point Likert scale (1–5). SD denotes sample standard deviation.

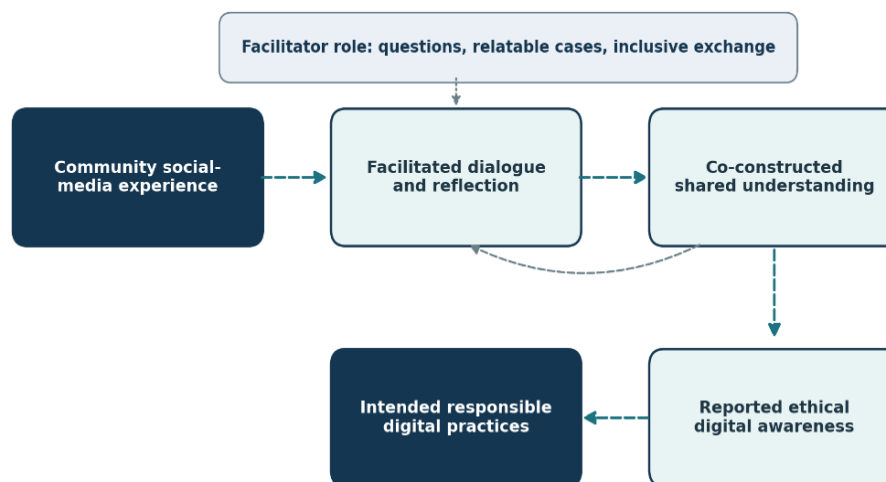


Figure 1. Participatory Communication as a Transformative Mechanism for Digital Ethics Education
 Source: Authors' data analysis 2026

The interaction pattern reported in Table 3 becomes theoretically meaningful when interpreted together with Figure 1, an interpretive model of participatory communication and perceived digital ethics learning. The figure synthesizes the process observed during the intervention: participants entered the learning space with existing digital experiences, encountered ethical issues through facilitated dialogue, reflected on those experiences collectively, and subsequently reported reconsidering their understanding of responsible digital behavior. The revised model explicitly includes community experience, dialogue and reflection, shared understanding, perceived ethical awareness, intended responsible practice, and the facilitator's supporting role. Feedback connections represent the potentially iterative nature of discussion and reflection. The empirical basis for this model is visible in the combination of highly positive responses to two-way interaction, contextual examples, and facilitator competence, together with observational evidence showing that participants raised questions, shared experiences, and requested examples related to their own social media practices.

The first component of Figure 1, community experience, is important because participants did not enter the program as individuals without digital knowledge. They were already active social media users, but their existing knowledge was not assessed through a comprehensive pre-intervention baseline. This distinction is consistent with participatory and Freirean perspectives, which argue that learners bring legitimate knowledge from lived experience and should not be positioned merely as recipients of expert instruction. Sáez et al. (2022) and Sales et al. (2021) similarly describe participatory processes as supporting knowledge co-construction and horizontal communication in their respective educational contexts. In the present study, this principle was reflected when everyday experiences involving misinformation, commenting practices, privacy, and content sharing became material for collective analysis.

The second component, dialogue and reflection, represents a proposed interpretive process in the model. The available evidence cannot isolate dialogue from other instructional elements as



a causal mechanism. Instead, participants were encouraged to interrogate their assumptions through questions, contextual cases, and exchanges with others. This interpretation corresponds closely with transformative learning theory, in which adults revise frames of reference through critical reflection combined with reflective discourse (Biasin, 2018). In the present community setting, participants expressed their reflections through interactions with peers and the facilitator; individual cognitive transformation was not independently measured.

The third component of Figure 1, shared understanding, describes the negotiation of interpretations during discussion rather than a demonstrated advantage over conventional transmission-oriented digital literacy education. Shared understanding implies that knowledge was not simply accepted because it was delivered by an expert; rather, it gained meaning through negotiation and contextual interpretation. Observations of participant questions, peer contributions, and discussion of familiar social-media dilemmas support this interpretation within the present seminar, without establishing superiority over other instructional approaches.

The final components of Figure 1—perceived ethical digital awareness and intended responsible digital practice—should nevertheless be interpreted carefully. The model indicates a plausible progression from reflection toward more responsible digital orientation, but it should not be interpreted as proof of a deterministic causal chain. Therefore, the model is best understood as an empirically informed explanatory framework rather than a validated causal model. Its directional and feedback connections represent proposed relationships rather than verified causal effects or sustained behavioral changes.

The facilitator's supporting role in Figure 1 is analytically important. The near-universal positive evaluation of facilitator competence in Table 3 reflects favorable post-seminar perceptions rather than verified facilitation effectiveness. At the same time, such uniformly positive responses may reflect social desirability or post-program gratitude and therefore cannot by themselves demonstrate effectiveness. The figure should consequently be interpreted in conjunction with the qualitative and observational evidence, which documents the presence of active questioning, experience sharing, and contextual reflection. Viewed as a whole, Figure 1 represents a proposed interpretive contribution of the study. It illustrates how participants' lived digital experiences and facilitated dialogue may be associated with perceived ethical awareness, without establishing actual behavioral transformation.

Transformation of Digital Ethics Awareness: From Digital Users to Responsible Digital Citizens

The qualitative analysis revealed three interconnected themes of perceived digital ethics learning: critical evaluation of information, ethical responsibility in online interaction, and intentions to share knowledge beyond the seminar. These themes were derived inductively from written interview notes, open-ended questionnaire responses, and observations; they do not establish verified before-and-after changes in online behavior. The interview results noted: "Participants requested many case examples, and two-way communication was constructive and engaging"; interview results P01-P30).

a. From Information Consumption to Critical Digital Awareness

Participants' post-seminar reflections emphasized evaluating information before sharing it. The quantitative findings in Table 4 describe post-seminar endorsement of verification-related statements; they cannot demonstrate individual transformation because no comparable baseline questionnaire was administered to all 30 participants.

Table 4. Post-Seminar Self-Reported Digital Information Awareness (n = 30)

Indicator	1n(%)	2n(%)	3n(%)	4n(%)	5n(%)	M	SD
Ability to distinguish information and hoaxes	0(0)	0(0)	0(0)	12(40.0)	18(60.0)	4.60	0.50
Checking information validity before sharing	0(0)	0(0)	0(0)	19(63.3)	11(36.7)	4.37	0.49
Understanding consequences of social media posts	0(0)	0(0)	0(0)	16(53.3)	14(46.7)	4.47	0.51



Note. The response categories follow Table 3. All values represent self-reported awareness measured after the seminar; no equivalent baseline ratings were collected from all 30 participants.

The qualitative responses demonstrated similar patterns. Twenty-two interviewed participants expressed that they became more careful before forwarding information and recognized the importance of checking the accuracy of digital content. Most participants stated, "I need to check and recheck first". This indicates a reported intention to verify information, rather than directly observed change in online decision-making.

b. From Digital Usage to Ethical Responsibility

Participants also described responsibility in online interactions. Digital behavior was discussed not only as personal activity but as an action with consequences for others. Table 5 presents their post-seminar endorsements of statements about politeness, source checking, responsible posting, respect for differences, and privacy.

Table 5. Post-Seminar Self-Reported Ethical Responsibility (n = 30)

Indicator	1 n (%)	2 n (%)	3 n (%)	4 n (%)	5 n (%)	M	SD
Using polite language online	0 (0)	0 (0)	0 (0)	16 (53.3)	14 (46.7)	4.47	0.51
Avoiding unclear information sharing	0 (0)	0 (0)	0 (0)	13 (43.3)	17 (56.7)	4.57	0.50
Feeling responsible for posted content	0 (0)	0 (0)	0 (0)	14 (46.7)	16 (53.3)	4.53	0.51
Respecting different opinions	0 (0)	0 (0)	0 (0)	12 (40.0)	18 (60.0)	4.60	0.50
Being careful with personal data	0 (0)	0 (0)	0 (0)	9 (30.0)	21 (70.0)	4.70	0.47

Note. The response categories follow Table 3. These post-seminar self-ratings describe participants' reported ethical awareness and practices; they do not independently establish behavioral change.

Written interview notes and open-ended responses suggested that participants were considering greater caution when commenting, responding to sensitive content, and sharing personal information. Fifteen interviewees stated, "I have just learned that posting another person's photograph requires permission." Such statements support an interpretation of perceived ethical responsibility, not verified changes in participants' subsequent online behavior.

c. From Individual Awareness to Community Digital Citizenship

A further theme concerned participants' intentions to extend their learning beyond personal practice. Some responses referred to educating relatives or other community members. Twenty interviewees stated, "I support holding seminars like this again because participants gain knowledge they can share with others". This suggests possible family and community knowledge-sharing pathways, but actual dissemination was not assessed. The findings represented in Tables 4 and 5 show strong post-seminar endorsement of statements addressing information verification, awareness of consequences, respectful communication, privacy protection, and responsibility for posted content. These descriptive results are consistent with a multidimensional view of responsible digital engagement (Culcasi et al., 2025), but they do not demonstrate transformation without comparable baseline measurements. The current findings reinforce the importance of distinguishing technical competence from ethical competence. This is relevant to a community whose members used social media routinely before the intervention. Takavarasha et al. (2018), studying South African university students, similarly reported that digital literacy did not automatically translate into digital citizenship. The present study offers a complementary, descriptive perspective from adult community learning in Indonesia. Compared with this single-group descriptive evaluation, Bickham et al. (2021) used a quasi-experimental design with comparison participants to evaluate a middle-school digital citizenship curriculum and found gains in some knowledge and safety-related beliefs. Differences in design, age group, and measurement preclude direct comparisons of intervention effects.

Integrating Quantitative and Qualitative Evidence: How Transformation Occurred

The integration of findings suggested that favorable ratings of communication quality coincided with participants' reported reflections and observed engagement presented in Table 6 below. The combined evidence supports the presence of participatory processes but does not establish that these processes caused behavioral transformation.



Table 6. Joint Display of Quantitative and Qualitative Findings

Quantitative Evidence	Qualitative from interview results and Integrated Interpretation	Observational Evidence
29 of 30 participants endorsed two-way interaction; all 30 positively evaluated facilitator mastery.	The researcher observed active questioning, requests for concrete examples, and experience sharing during the seminar.	Questionnaire ratings and observations converged in indicating participatory engagement, although causal effectiveness was not established.
All 30 participants endorsed selected statements concerning information verification and privacy protection.	Interview results emphasized checking information before sharing and obtaining permission before posting photographs of others. The participants stated "I have just learned that posting another person's photograph requires permission." And most participants also stated, "I need to check and recheck first".	Quantitative and qualitative findings were consistent in indicating perceived ethical awareness, rather than independently verified behavioral change.
All 30 participants positively evaluated the overall benefits of the program.	Interview results and open ended response proposed sharing newly acquired knowledge with family and community members. The participants stated "I support holding seminars like this again because participants gain knowledge they can share with others"	Participants expressed intentions to disseminate the digital ethics knowledge, but actual community-level diffusion was not measured.

The mixed-method findings indicate that participatory communication functioned as a transformative mechanism by enabling participants to connect digital ethics concepts with their lived experiences. Transformation occurred through dialogue, reflection, and collective interpretation rather than through information delivery alone.

Supporting Evidence from Paired Pretest-Posttest Assessment

To provide additional evidence of individual learning changes, five complete paired pretest-posttest responses were analyzed descriptively. These data were interpreted as supporting evidence rather than statistical representation of all participants.

Table 7. Illustrative Paired Pretest–Posttest Scores (n = 5 of 30)

Respondent	Pretest Score	Posttest Score	Score Difference
R1	7/10	10/10	+3
R2	4/10	10/10	+6
R3	4/10	10/10	+6
R4	8/10	10/10	+2
R5	5/10	10/10	+5
Mean	5.6/10	10/10	+4.4

Note. The paired assessment involved five volunteers (16.7% of participants), whereas 25 participants (83.3%) declined paired testing. All five volunteers attained the maximum posttest score, indicating a ceiling effect. The same ten questions were administered before and after the seminar. Results are descriptive and cannot establish a generalizable intervention effect.

The paired assessment showed a consistent increase in scores among five volunteers: the mean rose from 5.6/10 to 10/10 (+4.4 points). All five posttest scores reached the maximum, indicating a ceiling effect. Because the questions were repeated, participants self-selected into testing, and there was no comparison group, these results are illustrative rather than evidence of generalizable intervention effects.

In the Indonesian community-learning context, the findings suggest that contextual dialogue, reflection, and shared interpretation can make digital ethics topics meaningful to adults. Indahri (2022) emphasizes links among families, schools, and community literacy initiatives. The study's limitations should be considered together: it involved 30 purposively recruited women at one urban site, relied mainly on post-only self-reports with high endorsement levels, used researcher-written interview notes, and included only five self-selected paired assessments with a posttest ceiling. Without a comparison group, sustained follow-up, or observed community



dissemination, causal effects, durable behavior change, and population-wide generalization cannot be inferred. Future research should use larger paired samples, behavioral outcomes, longitudinal follow-up, and comparisons across community settings.

CONCLUSIONS AND SUGGESTIONS

This study examined participatory communication as a transformative approach to digital ethics education in a community-based learning setting. The three research questions were addressed as follows. First, participatory communication was implemented through contextual social media cases, two-way interaction, experience sharing, and reflective discussion, creating opportunities for participants to examine their everyday digital practices. Second, post-intervention questionnaire responses and qualitative reflections indicated positive self-reported digital ethics awareness, particularly concerning information verification, privacy protection, responsible communication, and the consequences of online actions. Third, the integrated findings suggested that participatory learning was associated with participants' perceived development of critical digital awareness, ethical responsibility, and emerging community-oriented digital citizenship. However, these findings do not establish a causal effect or demonstrate sustained behavioral change. The study contributes to existing scholarship by extending participatory communication and transformative learning perspectives into the field of community-based digital ethics education.

Several methodological limitations should be considered when interpreting the findings. The study involved a single group of 30 participants without a comparison group, and most quantitative measures relied on post-intervention self-reports, limiting the assessment of actual changes in digital behavior. Only five volunteers completed the paired pretest-posttest assessment, and their uniformly maximal posttest scores introduced a ceiling effect and restricted generalizability. Moreover, all participants were women recruited from one urban community, limiting transferability to other populations and settings. Although the educational program was facilitated by an external communication specialist rather than a manuscript author, the first author's involvement in observation and interviews may have influenced participants' responses and interpretations. The absence of longitudinal follow-up further prevents conclusions about the durability of perceived learning or its translation into everyday digital practices.

Community educators should incorporate participatory communication strategies into digital ethics education by using real-life social media cases, interactive discussions, peer experience sharing, and guided reflection. Community Learning Centers (Pusat Kegiatan Belajar Masyarakat, PKBM) are encouraged to develop contextualized digital literacy activities that address misinformation, personal data protection, respectful online communication, and responsible content sharing. Local digital literacy programs should also involve women and other adult community learners as potential peer educators who can share ethical digital practices within their families and communities. Program evaluations should incorporate baseline assessments, accessible follow-up activities, and opportunities to observe whether participants apply their learning in everyday situations. Future research should examine whether these reported transformations persist over time and develop into observable digital behavior. Longitudinal studies, larger paired samples, validated behavioral measures, and comparative research across different community settings would strengthen evidence regarding the durability, transferability, and causal mechanisms of participatory digital ethics education.

REFERENCES

- Biasin, C. (2018). Transformative Learning: Evolutions of the Adult Learning Theory. *Phronesis*, 7(3), 5–17. <https://doi.org/10.7202/1054404ar>
- Bickham, D. S., Moukalled, S., Inyart, H. K., & Zlokower, R. (2021). Evaluating a Middle-School Digital Citizenship Curriculum (Screenshots): Quasi-Experimental Study. *Jmir Mental Health*, 8(9), e26197. <https://doi.org/10.2196/26197>
- Culcasi, I., Martín, R. C., & Cinque, M. (2025). Fostering Digital Well-Being Through (E-)Service-Learning: Engaging Students in Responsible and Inclusive Digital Practices.



- Behavioral Sciences*, 15(9), 1158. <https://doi.org/10.3390/bs15091158>
- Dai, Y. (2024). Dual-contrast pedagogy for AI literacy in upper elementary schools. *Learning and Instruction*, 91. <https://doi.org/10.1016/j.learninstruc.2024.101899>
- Durnali, M., & Ocak, M. A. (2023). Examining Values in Community Stories of the Electronic Platform for Adult Learning in Europe. *Psychology in the Schools*, 60(11), 4350–4371. <https://doi.org/10.1002/pits.23028>
- Facca, D., Smith, M. J., Shelley, J., Lizotte, D. J., & Donelle, L. (2020). Exploring the Ethical Issues in Research Using Digital Data Collection Strategies With Minors: A Scoping Review. *Plos One*, 15(8), e0237875. <https://doi.org/10.1371/journal.pone.0237875>
- Freire, P. (1970). *Pedagogy of the Oppressed*. Bloomsbury Publishing. <https://www.bloomsbury.com/us/pedagogy-of-the-oppressed-9781501314131>
- Indahri, Y. (2022). Joint Effort to Promote Digital Literacy From School. *Aspirasi Jurnal Masalah-Masalah Sosial*, 13(2). <https://doi.org/10.46807/aspirasi.v13i2.3391>
- Khateeb, A. A. (2023). Uncovering Digital Competence in Language Instruction: A Study of Pre-Service English Teachers in Saudi Arabi. *Journal of Language Teaching and Research*, 14(6), 1492–1501. <https://doi.org/10.17507/jltr.1406.07>
- Milyane, T. M., Darmaningrum, K., Natasari, N., Setiawan, G. A., Sembiring, D., Irwanto, I., Kraugusteeliana, K., Fitriyah, N., Sutisnawati, A., Sagena, U., Nurhayati, S., Indriana, I. H., & Putri, M. S. (2023). *Literasi Media Digital*. <https://store.penerbitwidina.com/product/literasi-media-digital>
- Nebeker, C., Dunseath, S. E., & Linares-Orozco, R. (2020). A Retrospective Analysis of NIH-funded Digital Health Research Using Social Media Platforms. *Digital Health*, 6. <https://doi.org/10.1177/2055207619901085>
- Nurhayati, S., Musa, S., Boriboon, G., Nuraeni, R., & Putri, S. (2021). Community Learning Center Efforts to Improve Information Literacy in the Community for Cyber Crime Prevention during a Pandemic. *Journal of Nonformal Education*, 7(1), 32–38. <https://doi.org/10.15294/jne.v7i1.26883>
- Nurhayati, S., Rustiyana, R., Judijanto, L., Indrayani, N., Kusumastuti, S. Y., & Zubaidi, M. (2025). *Pemberdayaan Digital*. PT. Sonpedia Publishing Indonesia. https://www.researchgate.net/publication/402797077_PEMBERDAYAAN_DIGITAL
- Rățiu, M., Pele, A. V., Bradea, A., & Pop, C. F. (2023). *Digital and Media Education of Adult Educators*. <https://doi.org/10.20944/preprints202311.0958.v1>
- Rehak, K. M. (2022). Privacy and Data Rights for Adult English as a Second Language (ESL) Students. In T. P. Fudge (Ed.), *Exploring Ethical Problems in Today's Technological World* (pp. 102–119). IGI Global. <https://doi.org/10.4018/978-1-6684-5892-1.ch006>
- Sáez, J. L. F., Gutman, I. R., Marques, E. J. da S. T., & Yoshihama, M. (2022). (Digital) PhotoVoice Y Su Papel en El Desarrollo Comunitario Y La Construcción De La Identidad Colectiva: Hacia Una Ciudadanía Crítica Y Participativa a Través De La Educación. *Research in Education and Learning Innovation Archives*, (28), 77–92. <https://doi.org/10.7203/realia.28.21795>
- Sales, A., Moliner, O., & Traver, J. (2021). Participatory Action Research: a case study on the school democratisation process. *Research Papers in Education*, 36(6), 704–725. <https://doi.org/10.1080/02671522.2020.1767182>
- Takavarasha, S., Cilliers, L., & Chinyamurindi, W. (2018). Navigating the Unbeaten Track From Digital Literacy to Digital Citizenship: A Case of University Students in South Africa's Eastern Cape Province. *Reading & Writing*, 9(1). <https://doi.org/10.4102/rw.v9i1.187>
- Taufikin, Nurhayati, S., Falah, A., & Amintaha, A. (2026). Enacting a living curriculum through an animatic-centered animation production flow: a case study of vocational high school education in Indonesia. *Media Practice and Education*, 1–19. <https://doi.org/10.1080/25741136.2026.2646762>
- Wijayanti, L. I., & Sanyata, S. (2024). Challenges and Opportunities for Adult Education in the Digital Era: The Role of Guidance and Counseling. *Jurnal Bimbingan Dan Konseling Terapan*, 8(2), 304. <https://doi.org/10.30598/jbkt.v8i2.1992>



- Zheng, X. (2026). The Impact of Perceived Value on Gen Z Users' Continuance Intention Toward AIGC Platforms from an SOR Perspective. *Proceedings of 2025 2nd International Conference on Artificial Intelligence and Future Education, AIFE 2025*, 420–425. <https://doi.org/10.1145/3785987.3786056>
- Zubaidi, M., Ibrahim, M., Setiyowati, E., Karnain, N., Hadi, S., Nurhayati, S., Boriboon, G., Moreb, M., & Dandan, S. M. M. (2026). Islamic-Based Community Education and Adult Functional Literacy: Participation Mechanisms and Capability Outcomes for SDG 4 in Rural Indonesia. *Prima Magistra: Jurnal Ilmiah Kependidikan*, 7(2), 376–390. <https://doi.org/10.37478/jpm.v7i2.7638>

