

Implementing A Community-Based Youth Digital Literacy Training Program For Community Empowerment In Pakistan

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Abstract

The lack of structured digital literacy mentoring remains a challenge for youth communities in semi-urban Pakistan, despite increasing access to mobile devices. This situation has implications for low levels of targeted digital communication skills, critical information evaluation, and responsible online interaction practices. A community-based training program was conducted at a youth center in Lahore with 28 participants aged 16–22 years to strengthen practical digital competencies while encouraging social participation. The program was implemented through a participatory approach that included initial needs discussions, guided practice workshops, and collaborative reflection sessions focused on digital communication, media ethics, and simple content production for community activities. Data were collected through observation notes, reflective feedback, and pre- and post-program questionnaires, and then analyzed using descriptive comparisons enriched with thematic interpretation. During the program, participants demonstrated increased confidence in using online collaborative tools and a tendency toward more structured communication. These changes were accompanied by a stronger awareness of digital responsibility in social interactions. Although conducted on a limited scale, this experience provides an overview of contextual digital literacy training practices and has the potential to serve as a reference for developing technology-based youth empowerment models across various global communities.

Keywords: Digital Literacy Training; Community-Based Learning; Youth Empowerment; Participatory Approach; Digital Communication Skills.

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Introduction

Digital transformation has driven significant changes in communication patterns, access to information, and young people's social participation across various developing countries (Djatkiko et al., 2025; Rushambwa & Ndhlovu, 2023). Digital literacy is no longer understood solely as the technical ability to use devices; it also includes critical skills in assessing information, building ethical communication, and utilizing technology for productive community-based activities (Sujarwo et al., 2022). In recent developments, technology-based empowerment programs are increasingly geared toward participatory approaches that connect digital skills with the social needs of local communities. This approach is seen as capable of strengthening individual capacity while expanding community participation in an increasingly complex digital environment (Hussain & Phulpoto, 2024). However, increased access to technology does not always translate into improved quality of use. Several studies have shown that the digital divide is shifting from a matter of access to a meaningful difference in ability to use it, particularly among young people in semi-urban areas (Chakrabarti et al., 2025; Katunga et al., 2023).

In Pakistan, the use of mobile devices and social media among adolescents and young adults has grown rapidly in recent years. This phenomenon demonstrates changing patterns of social interaction and opens up new opportunities for technology-based learning activities. However, this intense use has not been fully accompanied by targeted digital literacy skills, particularly in collaborative communication, evaluating the credibility of information, and awareness of media ethics (Chang & Kuo, 2025; Huda & Hashim, 2022; Sanches, 2022). Many young people engage in online activities as content consumers without learning spaces that allow them to develop reflective skills about everyday digital practices. This situation suggests that community-based training programs remain necessary to connect participants' digital experiences to the broader social context.

A number of previous studies have discussed digital literacy through a formal education curriculum approach or integrated training within academic institutions (Holm, 2025; Quraishi et al., 2024). This approach makes an important

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contribution to the development of a conceptual framework for digital literacy. However, reports on the direct implementation of training in community service contexts, particularly those that emphasize participants' social interactions and local community dynamics, are relatively limited. Many digital literacy activities are reported as technical activities without demonstrating how participatory processes influence participant engagement or the sustainability of digital practices after the program ends. This limitation indicates a gap in the documentation of community service practices that can explain the relationship between learning experiences, social reflection, and changes in digital behavior at the community level.

Based on these conditions, the community service activities reported in this article were designed to address the need for more contextual and experience-based digital literacy training. The training program was implemented by positioning youth as key actors in the learning process through collaborative practice, reflective discussions, and the production of simple digital content related to community activities. This approach not only emphasized technical skill development but also sought to connect technology use with the social values developing within the participants' communities. Thus, digital literacy is understood as a social practice formed through shared interactions and experiences.

Conceptually, this article strengthens the understanding of digital literacy as an empowerment process rooted in community contexts. Methodologically, this activity offers a participatory training model that integrates field observations, participant reflections, and collaborative practices into the evaluation of community service programs. The resulting findings provide an empirical overview of how an experience-based approach can support the development of youth digital competencies while expanding the global discourse on inclusive and sustainable digital empowerment strategies.

Method

This community service activity uses a participatory approach that positions the community as an active partner in the planning, implementation, and reflection processes (Nagy, 2024; Pedersen et al., 2022). This approach was chosen to ensure that digital literacy training is not solely oriented toward knowledge transfer but also considers participants' social experiences and community dynamics. The facilitator acts as a mentor, facilitating discussions and collaborative practice while ensuring the learning process is both dialogic and contextual.

Community Service Approach

The community service model used combines the principles of experiential learning and collaborative engagement. Prior to the main activities, the implementation team held initial discussions with community managers to identify training needs and technology usage patterns among local youth. This phase served as the basis for developing materials that were relevant to participants' experiences. The training was designed as a guided workshop, enabling participants to directly apply digital skills in real-world situations.

Partner Characteristics

The activity partner is a youth community center located in a semi-urban area of Lahore, Pakistan. This community regularly organizes social and educational activities for adolescents and young adults. Twenty-eight participants, aged 16–22, participated. The majority of participants had experience using smartphones and social media but had never participated in structured digital literacy training. Participants' educational backgrounds varied, from high school students to early-year college students, so the learning approach was designed flexibly to accommodate differences in digital experience.

Implementation Stages

The program lasted two weeks and was divided into three main stages. The first stage involved identifying needs through group discussions and initial observations to understand participants' digital habits. The second stage involved implementing the training, which consisted of three sessions: digital communication and online collaboration practice, reflection on media ethics, and the development of simple digital content related to community activities. The third stage was a joint reflection and evaluation session to understand changes in participants' experiences after the training. Each session followed a similar flow: a discussion of participants' experiences, guided practice in small groups, and a joint reflection. This approach enabled participants to share knowledge and reduce skills gaps among group members.

Materials and Tools Used

Training activities utilize devices easily accessible to participants, such as personal smartphones and community computers. Online digital platforms are used as collaborative practice tools, including shared document processing applications, simple presentation tools, and online communication platforms. Training materials are structured as concise visual guides to help participants understand the steps of using digital tools without relying on complex instructions.

Program Impact Evaluation Method

Evaluation of the program's impact is conducted through a combination of qualitative and descriptive data. (Tariq, 2024) Data were collected through observation notes during the training, participants' written reflections at the end of each session, and pre- and post-activity questionnaires measuring perceived confidence in using digital technology. Analysis was conducted by comparing changes in participants' perceptions and identifying themes that emerged in group reflections. This approach was chosen to capture changes in behavior and learning experiences that cannot always be measured solely through quantitative indicators. The evaluation results were then used to assess the effectiveness of the participatory approach in supporting community-based digital empowerment.

Results and Discussion

Implementing a community-based digital literacy training program provides insight into how a participatory approach can influence youth engagement with technology. Analysis of the activity results was conducted by combining facilitator observation data, participant reflections, and descriptive comparisons from pre- and post-activity questionnaires. This approach allows for discussions that emphasize not only quantitative changes but also understanding the social dynamics that developed during the training process.

Initial Conditions of Participants' Digital Literacy

In the initial phase of the activity, most participants had experience using social media for daily communication. However, this use tended to be informal and not directed towards productive community-based activities. Several participants reported rarely using online collaborative platforms for document preparation or coordinating joint activities. This phenomenon aligns with the findings of the study (Afzal et al., 2023; Chee, 2024) which shows that the current digital divide has more to do with the quality of technology use than with access alone.

Initial questionnaire results showed that participants' average confidence in using digital collaborative tools remained moderate. Many participants felt uncertain about composing formal communications or critically managing information. This indicates that their digital experience has not yet developed into comprehensive digital literacy competencies (Martínez-Bravo et al., 2022; Yeşilyurt & Vezne, 2023). Digital literacy encompasses interrelated technical, cognitive, and social aspects; without adequate support, technology use can potentially be limited to consumer activities.

Changes in Engagement During Training

As the training sessions progressed, participant engagement changed significantly. Collaborative practice activities in small groups encouraged participants to share experiences and discover new ways to utilize technology. At the beginning of the sessions, group discussions were often dominated by participants who were more familiar with digital devices. However, after the facilitator implemented experiential learning strategies, participation became more evenly distributed. Descriptive comparisons of pre- and post-activity questionnaires revealed an increase in perceived digital skills across several key indicators. A summary of these changes is presented in Table 1.

Table 1. Changes in Participants' Perceptions of Self-Confidence in Using Digital Tools

Digital Literacy Indicators	Pre-Activity (Average)	Post-Activity (Average)
Writing structured digital communications	2.8	3.9
Using online collaborative documents	2.5	4.1
Evaluating digital information	3.0	3.8
Media ethics awareness	3.2	4.0

The scale used ranges from 1 to 5. Although the analysis is descriptive, an increasing trend is evident across all indicators. This finding reinforces the view (Mohamad et al., 2025; Zhou et al., 2025) which emphasizes that effective digital literacy learning requires hands-on experience and a space for social reflection. Therefore, to clarify the increasing trend in perceived digital competence, Figure 1 compares average scores.

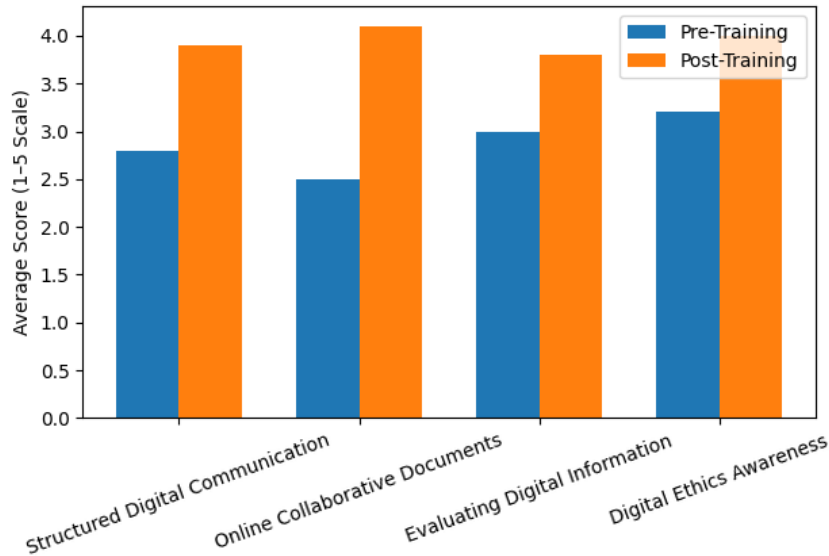


Figure 1. Comparison of Participants' Digital Literacy Confidence Before and After The Community-Based Training Program.

Figure 1 shows a trend toward increased participants' perceived self-confidence across all digital literacy indicators following the training. Improvements were most evident in the use of online collaborative documents and structured digital communication, indicating that the hands-on approach and reflective discussions strengthened participants' digital skills. This visualization supports the descriptive findings in Table 1 that community-based learning experiences can foster gradual changes in digital behavior.

Strengthening Digital Ethics Awareness

The discussion on media ethics sparked deep reflection among participants. Many participants related the training material to their personal experiences regarding the spread of unverified information on social media. This reflection process demonstrated that digital literacy is not only about technical skills but also about social awareness and individual responsibility in the digital environment. So that, (Martínez-Bravo et al., 2022; Torres-Hernández & Gallego-Arrufat, 2022; Zakir et al., 2025) emphasized that digital competence involves the ability to understand the social impacts of technology, including security and ethical aspects. During this activity, participants began to demonstrate changes in their attitudes toward online information-sharing practices. Several participants reported being more cautious in sharing content and considering the source of information before sharing it with others. These changes demonstrate that a participatory approach incorporating reflective discussion can foster stronger critical awareness.

Digital Content Production as an Empowerment Practice

One of the most notable outcomes of this training was participants' initiative in creating simple digital content about community activities. Content production activities were conducted in groups to encourage collaboration and creativity. The types of content produced by participants are summarized in Table 2.

Table 2. Types of Digital Content Generated by Participants

Group	Content Type	Theme Focus
Group 1	Digital poster	Environmental cleanliness campaign
Group 2	Simple infographic	Youth sports activities

Group	Content Type	Theme Focus
Group 3	Visual presentation	Education on the use of social media
Group 4	Digital poster	Promotion of community activities

The production of digital content demonstrates a shift in the orientation of technology use from individual activities to collaborative, community-oriented practices (Gonzalez-Mohino et al., 2023; Mattila & Nummi, 2022). Involvement in media production can increase a sense of social ownership and encourage active participation in the digital public sphere. In the context of these activities, participants began to see technology as a means to express ideas and strengthen their community identity.

Implementation Challenges and Methodological Reflection

Although the training went according to plan, several challenges arose during implementation. Limited internet connection was one factor affecting the smooth running of online collaborative activities. Furthermore, varying levels of digital experience among participants required adjustments to facilitation strategies to ensure everyone could participate comfortably. This situation demonstrates that digital literacy does not develop in a technologically neutral space but is shaped by infrastructure, learning culture, and individual participants' experiences.

Challenges encountered during implementation also demonstrated the importance of an adaptive training design approach. In several sessions, facilitators needed to shift the activity scenario from a fully online practice session to an offline simulation-based discussion to ensure learning objectives were achieved. These adjustments provided a methodological lesson: flexibility is not merely a technical strategy but also part of the reflective process in community service (MacDonald et al., 2022; Murti et al., 2020) emphasizes that a participatory approach requires the ability to respond to field dynamics on an ongoing basis, because social interactions within a community are often unpredictable through initial planning.

Beyond technical factors, the diversity of participants' backgrounds also created unique learning dynamics. Participants with greater digital experience tended to act as informal facilitators for other group members. This phenomenon demonstrates that learning occurs not only vertically between facilitators and participants, but also horizontally through interactions among community members. This approach aligns with the concept of a learning community, which places collective experience as the primary source of knowledge formation. Thus, implementation challenges provide opportunities to understand how digital literacy practices develop socially and contextually. This experience has methodological implications: technology-based community service programs should not rely too heavily on specific devices but instead focus on learning strategies that can adapt to local conditions. The integration of online and offline methods throughout the training demonstrates that design flexibility can maintain the continuity of the learning process while strengthening participant engagement.

Implications for Community Service Practice

The findings of this activity demonstrate that community-based digital literacy can be an effective means of empowerment when designed contextually and based on participants' real-life experiences. The integration of collaborative practices, social reflection, and digital content production throughout the training created a more meaningful learning experience while encouraging active engagement in community activities. This approach not only improved individual skills but also strengthened social interactions among community members. In some groups, participants began taking a more active role by using technology to organize simple social activities in their neighborhoods.

The results of implementing activities show that digital literacy develops through a continuous process of social interaction, where shared experiences serve as a significant learning space (Marín & Castaneda, 2023; Martínez-Bravo et al., 2022; Smith & Storrs, 2023). The participatory approach applied during the training enabled participants to develop a critical understanding of everyday digital practices, leading to changes not only in technical aspects but also in more reflective ways of interpreting technology use. These findings demonstrate that the success of technology-based community service programs is determined not only by the delivery of material but also by the creation of a dialogue space that supports the exchange of experiences among participants.

More broadly, the implemented training model demonstrates potential for adaptation to other communities facing the gap between technology access and meaningful use. The approach, which emphasizes hands-on practice and collaborative reflection, helps bridge local needs with global developments in digital literacy. Furthermore, implementation experience demonstrates that even a limited-scale program can still generate relevant social impact if designed in a participatory manner and responsive to community needs. Thus, digital literacy-based community service serves not only as a short-term educational activity but also as a social learning space that enables the emergence of new practices in youth empowerment in the era of digital transformation.

Conclusions

The implementation of a community-based digital literacy training program in Lahore demonstrated that a participatory approach can strengthen youth engagement in more reflective and collaborative technology use practices. Activities that integrated experiential discussions, hands-on practice, and simple digital content production provided participants with a space to develop more structured digital communication skills while raising awareness of media ethics. The changes observed were not only related to improved technical skills but also to how participants interpreted technology as a means of social participation in their communities.

The impact of the activities demonstrates that digital literacy can be an empowering tool when designed with local context and participant experiences in mind. An experiential learning approach allows participants to develop a deeper understanding of technology use, enabling the learning process to continue beyond the training stage and into simple social initiatives emerging from within the participant group. These findings have practical implications: technology-based community service programs should position the community as the primary actor in the learning process, rather than simply as recipients of materials. However, several limitations require attention in implementing similar programs in the future. The uneven availability of digital infrastructure and differences in participants' technological experience affect the learning dynamics during the program. Therefore, follow-up programs are recommended to develop ongoing mentoring strategies involving local community partners, ensuring a more stable and adaptive learning process tailored to participants' needs.

As a recommendation, community service activities in digital literacy can be expanded through collaboration among educational institutions and communities to strengthen program sustainability. The development of flexible training modules and the integration of more systematic evaluation methods are also needed to more comprehensively monitor the impact of activities. By combining participatory and reflective approaches, community-based digital literacy programs can become models of youth empowerment relevant across diverse global contexts in the era of digital transformation.

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Contribution

Ayesha Noor was instrumental in designing the training program, coordinating field activities, and mentoring participants during implementation. Ahmed Raza Khan contributed to developing technology-based training materials, collecting and analyzing activity data, and writing and editing the article.

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