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PEER-LED CROSS-CULTURAL SERVICE LEARNING IN LIBRARY EDUCATION: ENHANCING INFORMATION LITERACY AND PROFESSIONAL IDENTITY THROUGH EXPERIENTIAL OUTREACH

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Abstract:

In the evolving digital landscape, information literacy (IL) has emerged as a critical competency for academic success, lifelong learning, and professional readiness. This study investigates a peer-led, cross-cultural service-learning initiative conducted under Malaysia's SULAM framework, involving students from Universiti Teknologi MARA Cawangan Kedah (UiTMKDH), Malaysia, and Universitas Airlangga (UNAIR), Indonesia. The program was implemented at UNAIR's Campus B Library in Surabaya, Indonesia, where UiTMKDH students designed and delivered a structured IL outreach initiative for their UNAIR peers. Using a mixed-methods descriptive design, data were collected from pre-post surveys administered to UNAIR participants (n = 15) and a collectively written reflective report by UiTMKDH facilitators (n = 22). Quantitative findings revealed substantial improvements in IL competencies across all domains, with notable gains in participants' confidence to apply, share, and teach IL skills, as well as consistently high satisfaction with program design and delivery. Qualitative insights highlighted UiTMKDH facilitators' growth in instructional competence, intercultural empathy, adaptive teamwork, and professional identity, achieved through navigating linguistic barriers, time constraints, and logistical challenges. Together, the findings demonstrate that cross-cultural, peer-led service learning is both effective and transformative, advancing IL skill acquisition among learners while fostering the pedagogical, leadership, and reflective capacities of facilitators. The study contributes to

academic discourse on IL pedagogy, provides a scalable model for preparing globally competent librarians and information professionals, and supports national higher education goals of employability, global readiness, and community engagement. Implications for academic practice, industry training, and societal development are discussed, alongside recommendations for incorporating objective assessments, expanding cross-disciplinary participation, and integrating emerging literacies such as data, algorithmic, and AI literacy into future outreach frameworks.

Keywords:

Cross-Cultural Education, Information Literacy, Peer-Led Instruction, Service Learning, SULAM (Service Learning Malaysia – University for Society)

Introduction

In today's digital age, information literacy (IL) is a fundamental skill for academic achievement, critical thinking, and lifelong learning. Universities around the world are moving away from one-off, lecture-based IL instruction and adopting more experiential, applied approaches. Traditional librarian-led sessions often fall short in helping students develop practical, transferable IL skills such as evaluating sources, understanding information ecosystems, and navigating digital resources (Wahab et al., 2025).

To address these challenges, many institutions now focus on real-world, problem-based IL learning experiences. Student- and faculty-led models are gaining ground, allowing learners to engage more actively in IL development (Anjali & Istiqomah, 2020; Wahab et al., 2025). At the same time, digital literacy is increasingly seen as a critical complement to IL, as both skills support effective learning in information-rich environments (Wan Mokhtar et al., 2024; Hamizak & Uzir, 2024).

One promising strategy is experiential service learning, which connects academic learning with community engagement. This method allows students to teach others while applying their knowledge in real contexts. In the field of library and information science education, service-learning initiatives have shown potential to enhance IL understanding, civic awareness, and teaching skills among future professionals.

Despite these developments, IL instruction in practice often fails to evolve into sustained, practice-based experiences. Theoretical perspectives frame IL as a social and evolving discipline that requires continuous, integrated pedagogy rather than episodic sessions (Souliotis, 2024; Pho, 2021). Design-oriented and outcome-focused accounts similarly argue that meaningful IL development is best achieved through deliberate scaffolding and structured curricula, such as BOPPPS-informed designs, rather than ad hoc workshops (Anggraini et al., 2025; Gardner et al., 2022). High-impact IL opportunities in higher education therefore emphasize long-term engagement through course-integrated projects and authentic learning tasks instead of stand-alone sessions (Dow, 2025). Taken together, these strands underscore IL as a core and evolving competency that requires extended, cross-disciplinary, and cross-contextual integration rather than isolated instruction (Souliotis, 2024; Pho, 2021; Anggraini et al., 2025; Gardner et al., 2022; Dow, 2025).

Within Library and Information Science (LIS), however, the integration of service learning, particularly in cross-cultural contexts, remains under-documented. Service learning has been shown to foster literacy, reflective practice, and professional growth in teacher preparation and related LIS contexts (Meena, 2024; Mune, 2020). Yet systematic discussions of LIS pedagogy across diverse settings highlight the need for deliberate incorporation of service learning into curricula and for examining its intercultural dimensions (Gardner et al., 2022; Masinde et al., 2024). Comparative reviews also reveal significant cross-national variation in IL instruction, suggesting that peer-led, cross-cultural initiatives could produce distinctive benefits for IL skill development and professional identity formation (Gardner et al., 2022; Saunders, 2020).

Past studies have rarely examined how peer-led, international outreach programs can simultaneously enhance IL competencies and shape students' professional identity. While emerging evidence from service learning in professional preparation shows benefits for learners' knowledge and reflective growth, including in community collaborations across borders (Meena, 2024; Mune, 2020), comparative analyses point to uneven IL practices across regions, implying untapped potential for cross-border models (Saunders, 2020; Masinde et al., 2024). These observations motivate targeted investigations into how peer-led, international outreach can cultivate IL competencies while contributing to the professional self-concept of LIS students in global information environments (Souliotis, 2024; Pho, 2021; Gardner et al., 2022; Deng, 2023).

This study explores a cross-cultural service-learning project involving students from Universiti Teknologi MARA Cawangan Kedah (UiTMKDH), Malaysia, and Universitas Airlangga (UNAIR), Indonesia. Guided by Malaysia's national SULAM framework, which promotes learning that benefits both students and communities, UiTMKDH students designed and delivered an IL outreach program for UNAIR participants (Wahab et al., 2025).

This project contributes to the literature in three important ways. First, it applies the SULAM framework beyond domestic settings by establishing a cross-border IL collaboration. Second, it uses a peer-led teaching model to help students grow as facilitators while deepening their IL expertise. Third, it embeds IL content (such as OPAC usage, source evaluation, and digital access) into a structured, multi-module outreach initiative. Together, these elements respond to the growing interest in hands-on IL education and the broader role of service learning in higher education (Wahab et al., 2025).

The IL program was part of a Library Outreach course in which UiTMKDH students facilitated learning sessions for UNAIR peers. The curriculum included modules on locating, evaluating, and using information resources effectively, and reflected the SULAM goal of encouraging transformative learning through meaningful community contribution (Wahab et al., 2025). This design recognizes that IL and digital literacy skills are best acquired through direct engagement with authentic tasks, rather than through passive instruction (Wan Mokhtar et al., 2024).

This paper focuses on three key research aims:

1. To assess how UNAIR participants developed IL skills during the outreach program, with a focus on information evaluation, search strategies, and digital navigation.
2. To evaluate the instructional practices and professional growth of UiTMKDH student facilitators, especially their ability to design lessons, teach peers, and reflect critically on their practice.

3. To examine the overall value of a peer-led, cross-cultural IL outreach model in library education, and its potential for wider application and sustainability.

By placing IL instruction within a cross-cultural, service-learning framework, this study adds to the evidence that peer-led outreach can both enhance learning outcomes and support the development of future information professionals. It also contributes to regional discussions on IL and digital literacy in Southeast Asia, demonstrating how collaborative educational efforts can promote ethical, critical, and practical information use in diverse learning environments (Wahab et al., 2025; Wan Mokhtar et al., 2024).

Literature Review

The literature on information literacy (IL) education, experiential learning, and cross-cultural pedagogy has grown significantly in recent years. This growth reflects both the increasing complexity of information environments and the urgent need to prepare graduates with transferable skills. Scholars emphasize that IL should not be treated as a discrete, one-time instructional session. Instead, it should be understood as a dynamic and evolving competency that is cultivated through structured and practice-based experiences across different contexts.

Within this body of work, four interconnected strands of scholarship are particularly relevant to the present study. The first concerns the integration of IL in higher education. The second highlights the role of experiential and service learning in deepening IL engagement. The third addresses the potential of peer-led instruction as both a pedagogical method and a strategy for professional development. The fourth underscores the necessity of cross-cultural adaptation in the design and delivery of IL programs. Together, these strands provide the conceptual foundation for examining how peer-led, cross-border service-learning initiatives, such as the collaboration between UiTMKDH and UNAIR, can enhance IL competencies among learners while also fostering professional growth among student facilitators.

Information Literacy and Higher Education

Information literacy (IL) is widely recognized as a key academic skill in higher education. It helps students identify what information they need, and teaches them how to find, evaluate, and use that information effectively in academic and real-world settings. In recent years, the library and information science (LIS) literature has increasingly positioned IL as central not only to academic success but also to lifelong learning (Moniarou-Papaconstantinou et al., 2015; Gardner et al., 2024).

This growing recognition has led to more efforts to integrate IL into university curricula. Rather than teaching IL as a separate topic, educators are now embedding it within courses, assignments, and research tasks that involve real-life information problems. This shift reflects a broader pedagogical trend toward experiential and applied learning, where students are actively involved in searching for and using information in context (Gardner et al., 2024).

Despite these advancements, IL instruction in many institutions still faces limitations. It often takes the form of brief workshops or single-session lectures that do not provide students with enough time or depth to develop meaningful IL skills (Cross & Tucci, 2017). As a result, students may struggle to transfer what they learn to more complex, real-world situations.

To close this gap, scholars have called for IL to be more deeply embedded into teaching and assessment practices. This includes designing learning experiences that require students to search for, evaluate, and apply information throughout the course, not just in isolated lessons (Gardner et al., 2024). The development of formal IL frameworks and the growing link between IL and academic accreditation also highlight the importance of creating structured, outcome-based IL instruction across higher education (Gardner et al., 2024).

Experiential and Service Learning

Experiential learning offers a practical way to connect academic knowledge with real-world application. Kolb's experiential learning theory (ELT) is often used to guide this approach. His model, which comprising concrete experience, reflective observation, abstract conceptualization, and active experimentation, has become a key framework for applying IL in educational settings (Natarajan, 2017).

In LIS education, service learning is a specific form of experiential learning that combines course content with community engagement. This method not only supports IL development but also helps students grow in other areas such as leadership, collaboration, and civic responsibility (Wahab et al., 2025). When students apply what they learn to help others, their understanding deepens and becomes more meaningful.

Service learning is widely used in fields like education and health sciences, where it has shown strong outcomes. However, within LIS, its application is still relatively limited and not as well documented (Wahab et al., 2025). Yet the few studies that do exist suggest promising results. These programs have been found to improve both hard skills, such as evaluating information and assessing source credibility, and soft skills, like teamwork and communication, especially when the learning experience is well-structured and based on genuine community partnerships (Wahab et al., 2025).

Recent reviews of service-learning initiatives in university library settings also highlight their broader social and educational value. Such projects not only support student learning but also serve the information needs of the wider community. They have shown positive outcomes in terms of knowledge sharing, practical skill development, and measurable community impact (Grácio et al., 2019).

The current study builds on this foundation. By bringing together students from two universities in a cross-cultural service-learning project, it responds to calls for more hands-on, socially engaged IL instruction. The initiative demonstrates how academic goals can align with public service to benefit both students and the communities they serve (Grácio et al., 2019).

Peer Instruction and Library Outreach

Peer-led instruction has become a valuable approach in IL education. In this model, students or early-career professionals, often referred to as "near-peers", take on the role of facilitators. Their ability to relate to fellow learners makes it easier to build trust, encourage participation, and support reflective learning (Natarajan, 2017).

In the field of LIS, peer instruction is increasingly recognized as a powerful tool for both teaching and professional development. Programs that allow students to design and deliver IL workshops provide them with hands-on teaching experience. These activities not only reinforce

IL concepts but also help future librarians build confidence, communication skills, and practical teaching strategies (Natarajan, 2017).

Most of the current research on peer-led IL instruction has been conducted in domestic or local contexts. While these studies show positive outcomes, there is still limited evidence on how peer-led models function in cross-cultural or international environments, especially in Southeast Asia (Natarajan, 2017). This gap is notable given the growing interest in global perspectives on IL education and the importance of preparing students to teach and learn across diverse settings.

This study addresses that gap by exploring a cross-cultural IL outreach program led by students. It contributes to ongoing conversations around how peer instruction can be used not just in classrooms, but also in community-based, international learning environments.

Cross-Cultural Adaptation in Instruction

Teaching IL across cultures requires careful attention to the cultural and linguistic differences that influence how people seek, understand, and use information. These differences also affect how students collaborate and engage in learning across diverse educational environments.

Studies in LIS have stressed the importance of recognizing local information practices and being sensitive to cultural diversity, especially when IL programs are extended beyond their original contexts (Chen et al., 2019). As service-learning and peer-learning models are applied internationally, educators must design these programs in ways that support inclusive and equitable participation for all learners.

Cross-cultural adaptation is more than translation or content transfer. It requires thoughtful adjustments to ensure that activities make sense in different cultural and institutional settings. This includes understanding students' backgrounds, the local information ecosystem, and the social norms that shape learning behaviors (Chen et al., 2019).

Recent scholarship has also highlighted the need for culturally responsive IL instruction that embraces values such as social justice, equity, and accessibility. In particular, programs should be designed to support learners from diverse backgrounds, including those with disabilities, by creating more inclusive and supportive learning environments (Chen et al., 2019).

The collaboration between UiTMKDH and UNAIR provides a useful example. In this project, attention to local language use, community expectations, and regional information needs was key to designing a meaningful and impactful IL outreach program. Such considerations are essential to achieving effective learning and ensuring the program delivers real value to both students and communities involved (Chen et al., 2019).

Taken together, past studies highlight the importance of embedding IL within experiential and service-learning frameworks, while also pointing to significant gaps in peer-led and cross-cultural contexts. Table 1 synthesizes representative studies on IL, service learning, and peer instruction, and outlines their relevance to the present study.

Table 1: Summary of Past Findings on IL, Service Learning, and Peer-Led Instruction

Theme	Representative Studies	Key Insights	Relevance to Current Study
IL in Higher Education	Gardner et al. (2022); Dow (2025); Souliotis (2024); Pho (2021)	IL is an evolving, social discipline requiring sustained, embedded pedagogy rather than one-off workshops. High-impact learning occurs through structured, long-term engagement.	Justifies embedding IL into a structured, experiential program rather than relying on isolated sessions.
Service Learning in LIS	Wahab et al. (2025); Meena (2024); Grácio et al. (2019)	Service learning enhances IL skills, reflection, teamwork, and civic responsibility. Limited evidence exists in LIS-specific contexts.	Supports adoption of the SULAM service-learning framework in this study.
Peer-Led IL Instruction	Natarajan (2017); Anggraini et al. (2025); Souliotis (2024)	Peer-led models increase engagement, reflective learning, and teaching skills but remain under-documented in cross-cultural LIS settings.	Aligns with UiTM students serving as facilitators for UNAIR peers in a peer-led outreach model.
Cross-Cultural Pedagogy	Chen et al. (2019); Masinde et al. (2024); Saunders (2020)	Cross-cultural IL instruction requires adaptation to linguistic, cultural, and institutional contexts. Few LIS studies examine cross-border peer-led programs.	Identifies the research gap this study addresses: a cross-cultural, peer-led IL initiative between UiTMKDH and UNAIR.

Methodology

This study employed a mixed-methods descriptive design grounded in the principles of experiential learning and community-based education. It evaluated both the instructional outcomes of a student-led information literacy (IL) outreach initiative and the learning impact on its international participants. The qualitative and quantitative data collection was framed around a real-world, cross-institutional collaboration between UiTMKDH, Malaysia and UNAIR, Indonesia.

The primary goal of this SULAM project was to foster IL among UNAIR students while simultaneously developing communication, leadership, and instructional skills among UiTMKDH student facilitators.

Participants

Two distinct groups of participants were involved in this international service-learning initiative:

- UiTMKDH Students (n = 22): Final-semester Diploma in Library Informatics students enrolled in the Library Outreach (IML301) course at UiTMKDH. These students served as the organizers, instructional designers, and facilitators of the information literacy (IL) outreach program. Notably, one UiTMKDH student had previously completed an

eight-week industrial training placement at UNAIR Library, fulfilling a key requirement of the diploma curriculum. This student brought valuable firsthand experience of UNAIR's library systems, departmental workflows, and user behavior. Her familiarity with the institutional context significantly contributed to the customization and appropriateness of the instructional content and activities. The facilitators' efforts were also guided and supported by librarians from UNAIR Library, who provided critical insights into the local IL needs, helped verify the relevance of teaching materials, and ensured the accuracy of procedural information. This collaborative planning between students and professional librarians enhanced the academic rigor and contextual fit of the program, ultimately improving its impact and coherence.

- UNAIR Students (n = 15): First-year diploma students from the Faculty of Vocational Studies UNAIR, Surabaya. These students were selected as learners in the outreach program, representing the target group for foundational IL skill-building. They engaged actively in hands-on sessions focused on OPAC use, library navigation, and critical evaluation of information sources.

All participants were selected through purposive sampling, simulating a real-world international collaboration environment while fostering mutual learning, cultural awareness, and professional development. The instructional design was informed by institutional knowledge, student experience, and librarian consultation, ensuring relevance to the host library's systems and the learners' academic context.

Program Structure and Intervention

The international SULAM project was conducted on May 30, 2024, at UNAIR's Campus B Library. The program included four structured activities, all designed, delivered, and managed by UiTM students:

- Library Orientation Tour: A walkthrough of key departments and facilities within UNAIR Library, led by UiTM facilitators to familiarize UNAIR students with library navigation and services.
- Interactive Quiz: A crossword puzzle activity conducted in groups, reinforcing IL concepts presented during the tour.
- Info Hunt: A hands-on OPAC-based task requiring participants to locate and retrieve specific books using call numbers.
- Info Sharing Presentation: A formal multimedia presentation introducing the facilities, services, and virtual resources of Sultan Badlishah Library (UiTMKDH), including a virtual tour link.

Each session was embedded with opportunities for bilingual communication (Bahasa Malaysia and Bahasa Indonesia), peer learning, and collaborative problem-solving.

Data Collection Instruments

To evaluate both learning outcomes and instructional experiences, this study employed two complementary instruments: a pre-post survey for UNAIR participants and reflective reports from UiTMKDH student facilitators.

1. Survey Instrument (Quantitative)

UNAIR participants completed a structured impact evaluation survey twice on the same day: once immediately before the program (pre-test) and again immediately after the program (post-test). The survey measured:

- Satisfaction levels with various program components (6 items)
- Self-perceived IL competencies before and after participation (6 paired items)
- Each item used a 5-point Likert scale. The "before" and "after" sections allowed for pre-post self-assessment, enabling the measurement of perceived learning gains without requiring multiple time points.

2. Reflective Reports (Qualitative)

UiTMKDH students submitted group reports within one week after the program. Reports detailed:

- The execution of each activity
- Their experiences interacting with UNAIR participants
- Skills acquired (e.g., public speaking, cross-cultural communication, instructional planning)
- Challenges encountered and how they were addressed
- Although no formal qualitative interview was conducted, these structured reflections provided rich narrative data suitable for thematic analysis.

Data Analysis

Quantitative (Survey Data): Descriptive analysis was performed on the pre- and post-program surveys completed by UNAIR participants. Frequency counts and percentage changes in Likert-scale responses were used to examine differences in self-reported IL competencies before and after the intervention. Given the self-reported nature of the data and small sample size, inferential statistical tests (e.g., t-tests) were not applied. Instead, the analysis emphasized directional trends and pedagogical significance, consistent with established practices in educational impact studies that prioritize descriptive and practice-oriented reporting in small-sample, self-reported contexts (Walters et al., 2020).

Qualitative (Reflective Reports): Descriptive content analysis was applied to group reports submitted by UiTMKDH facilitators. Since the reports followed a structured template (objectives, activities, benefits, challenges, recommendations), the analysis summarized and categorized responses under these headings. This enabled identification of recurring observations such as improved communication, teamwork, confidence, and cross-cultural learning, as well as challenges including time constraints, language barriers, and technical issues.

Ethical Considerations

Participation in the program and the survey was voluntary, and no identifying information was used in the analysis. UiTMKDH students submitted consented reports as part of their course assessment. Survey data from UNAIR students were aggregated to maintain confidentiality. The collaborative nature of the project was sanctioned by academic supervisors from both UiTMKDH and UNAIR.

Findings

This section presents the empirical findings from the SULAM international IL outreach program conducted collaboratively between UiTMKDH and UNAIR. The findings are organized into two major categories: (1) quantitative outcomes derived from surveys administered to UNAIR participants, and (2) qualitative insights extracted from the consolidated reflective report produced by UiTM student facilitators.

Quantitative Outcomes: Shifts in IL Competency and Satisfaction

The quantitative component of this study assessed the perceived learning impact of the program on UNAIR students. Fifteen diploma-level students from UNAIR completed pre- and post-program surveys that captured their self-assessed confidence and skill across a range of IL domains. The surveys also gathered feedback on the perceived quality and effectiveness of the program's design and facilitation.

Substantial Gains in IL Competencies

Across all six IL indicators, participants reported marked improvements after the program (see Table 2 and Figure 1). Prior to the intervention, responses were dispersed across the 5-point scale, with many students indicating only moderate agreement or even uncertainty. For example, several selected “mixed feeling” or “disagree” when asked about applying IL in daily life, teaching others, or disseminating information. Very few participants expressed strong confidence in any competency at baseline.

Table 2: Change in Self-Perceived Information Literacy Competencies (n = 15)

Before Program					Competency towards Knowledge/Skills	After Program				
SA	A	MF	D	SD		SA	A	MF	D	SD
4	4	7			I am interested in the knowledge/skill shared in the program.	11	4			
1	7	6	1		I have knowledge/skill regarding the information shared.	11	4			
1	6	7	1		I can apply the knowledge/skill in daily life.	10	5			
1	9	4	1		I can share the new knowledge/skill obtained with friends and others.	12	3			
1	8	6			I can teach the new knowledge/skill obtained with friends and others.	9	6			
4	5	6			I can disseminate the knowledge/skill obtained with the community continuously.	11	4			

Note: SA – Strongly Agree; A – Agree; MF – Mixed Feeling; D – Disagree; SD – Strongly Disagree

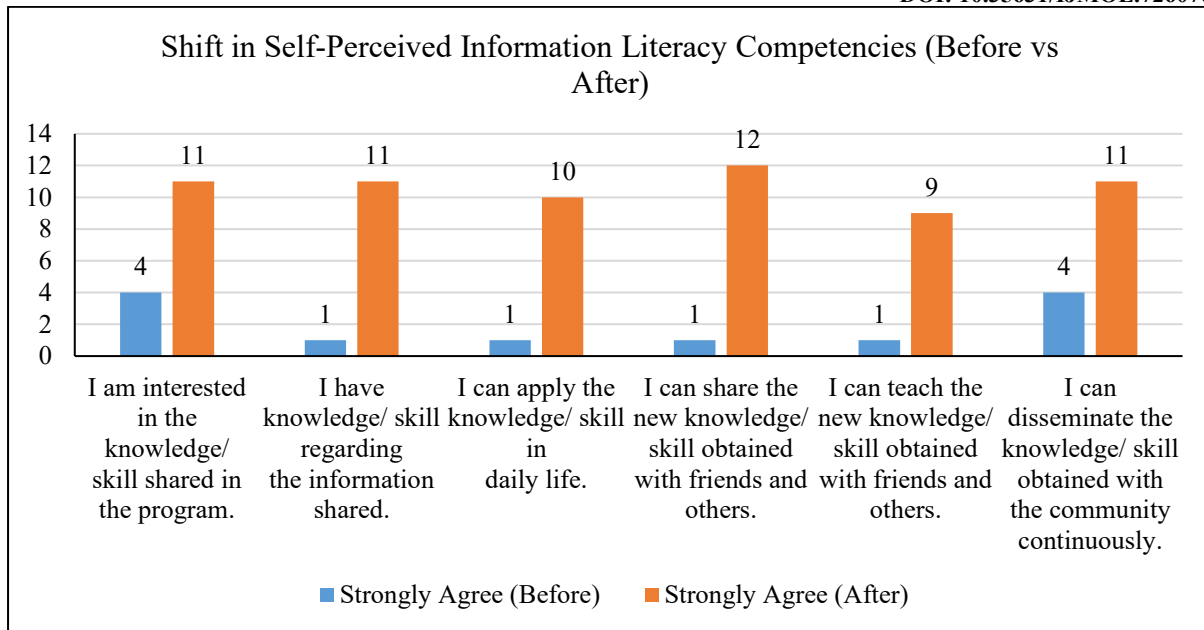


Figure 1: Shifts In Self-Perceived Information Literacy Competencies Among UNAIR Participants Before and After the Program (n = 15).

Figure 1 highlights the sharp increase in the “strongly agree” category. Particularly notable were the gains in students’ ability to share IL knowledge with friends and peers (rising from 1 to 12) and to teach others (from 1 to 9). These outcomes align closely with the peer-led service-learning model, which emphasizes collaboration, dissemination, and the empowerment of students to take on teaching roles.

The findings suggest that the program had a transformative effect on participants’ understanding of and confidence in using IL tools and concepts. Improvements were visible across both cognitive and behavioral indicators. While knowledge acquisition is expected in instructional contexts, the simultaneous growth in students’ self-efficacy and willingness to teach others points to the activation of a deeper, participatory form of learning. This trajectory reflects Kolb’s Experiential Learning Theory, in which learners move through cycles of concrete experience, reflection, conceptualization, and experimentation.

High Levels of Participant Satisfaction

The program evaluation showed consistently high levels of satisfaction across all measured aspects (see Table 3 and Figure 2).

Table 3: Participant Satisfaction Ratings

No.	Items	SA	A	MF	D	SD
1	Suitability of the program’s objectives.	10	5			
2	Content of the program.	11	4			
3	Speaker’s proficiency in conveying information.	10	5			
4	Efficiency of facilitators in conducting the program.	4	11			
5	Effectiveness of the program conducted.	5	8	2		
6	Evaluation of the overall program.	14	1			

Note: SA – Strongly Agree; A – Agree; MF – Mixed Feeling; D – Disagree; SD – Strongly Disagree

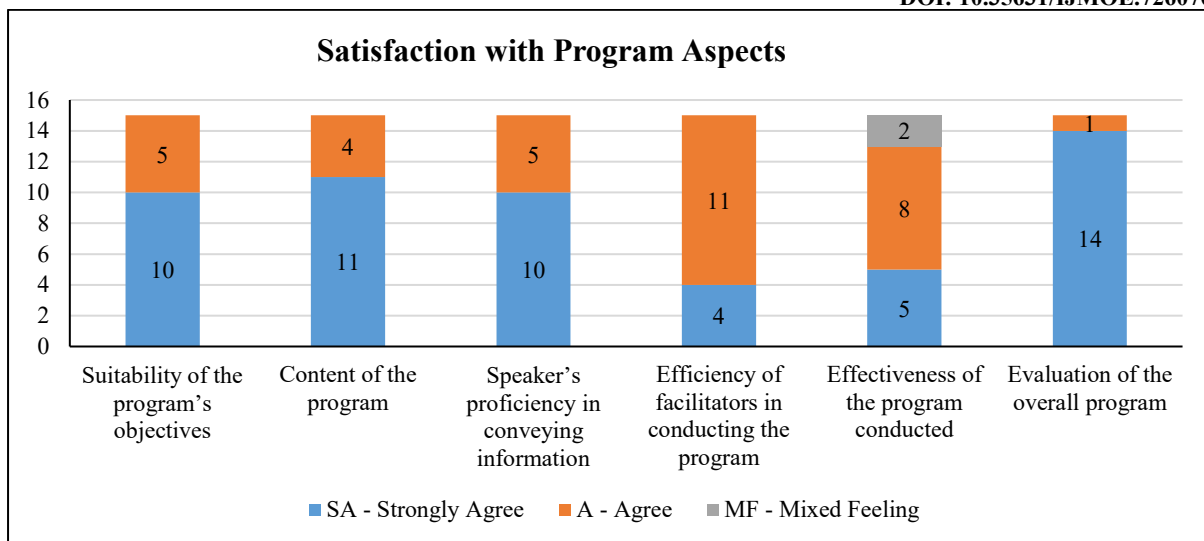


Figure 2: Satisfaction With Program Aspects Among UNAIR Participants (n = 15).

Most participants rated the program objectives, content, and delivery very positively. For example, 10–11 students strongly agreed that the program's objectives were suitable, the content was relevant, and the speakers conveyed information effectively, while the remaining students indicated agreement. Satisfaction with the overall program was especially strong, with 14 of 15 participants (93%) selecting "strongly agree" and the remaining one selecting "agree."

Some variation was noted across aspects. For facilitator efficiency, although all 15 students expressed satisfaction, only four selected "strongly agree," while the majority (11) selected "agree." Similarly, for program effectiveness, while 13 students rated it positively (5 "strongly agree," 8 "agree"), two participants selected "mixed feeling," suggesting room for improvement in demonstrating impact or outcomes (see Figure 2).

These results indicate that the program not only achieved its instructional objectives but also created a learning environment that participants found relevant, engaging, and well-structured. The slightly lower ratings on facilitator efficiency and perceived effectiveness are valuable feedback for future iterations, pointing to the need for additional training, rehearsal, or clearer role division among student facilitators.

The unanimous positive ratings suggest that the program succeeded in creating a welcoming, effective, and pedagogically sound learning environment. The students' satisfaction with facilitator efficiency, while slightly lower than other metrics, still points to general confidence in the UiTMKDH students' instructional competence, especially impressive given their peer status.

Overall, the quantitative data indicates that the peer-led, cross-cultural model was both impactful and well-received, validating the value of embedding IL within real-world, experiential learning structures.

Qualitative Outcomes: Professional and Pedagogical Development

Evidence for this strand derives from a single, collectively written reflective report by the 22 UiTMKDH facilitators. Following descriptive content analysis of the report's structured sections (benefits, challenges, recommendations), Table 4 presents the key insights. What

follows is an interpretive synthesis that regrouped items listed under Benefits (Table 4) into four coherent domains of professional growth and situates them alongside the Challenges and Recommendations reported by the students to show how learning was achieved in context.

Table 4: Summary of Insights from UiTMKDH Student Reflective Reports

Report Section	Key Observations	Examples / Evidence
Benefits / Skills Gained	Improved communication and teamwork; stronger leadership and confidence; better time management; enhanced public speaking and presentation skills; intercultural awareness	“We learned to cooperate as a team to complete each task.” ; “We became more confident in delivering information in front of an audience.”
Challenges Faced	Limited preparation time; language barriers (Bahasa Malaysia–Bahasa Indonesia); technical/logistical issues; stage fright	“We had to rush our preparation as the time given was very short.” ; “Some of us struggled with language differences when presenting.”
Recommendations	More rehearsal and preparation time; clearer division of roles; strengthen language practice; improve coordination with host institution	“Future projects should allow more rehearsal time.” ; “Clearer role assignment would help ensure smoother flow.”
Overall Reflection	Program was meaningful; students valued cultural exchange; project strengthened both IL skills and professional readiness	“This program provided us with valuable experience that cannot be gained in the classroom.”

Note. Data are drawn from the collective reflective report written by the 22 UiTMKDH student facilitators following the SULAM international service-learning program.

As shown in Table 4, students most frequently reported gains in communication, teamwork, leadership, confidence, time management, public speaking, and intercultural awareness. Those benefits were realised while working through language barriers, time constraints, and technical/logistical interruptions, and were reinforced by practical recommendations (more rehearsal, clearer role division, language practice, stronger coordination). Examined in depth, these benefits cluster into four areas of growth:

Growth in Instructional Competence

Facilitators learned to adapt their teaching for a cross-linguistic audience during the Orientation Tour, Info Hunt, and presentations, moving beyond scripted delivery to multimodal explanations (visuals, live demonstrations, simplified terminology). One reflection captured the communicative adjustments needed:

“We had difficulty communicating with the community... so we tried to remain calm and did our best to speak in Bahasa and English so that both parties may understand each other without misunderstanding.”

Facing stage fright and language differences (Table 4: Challenges), students leaned on rehearsal and language practice (Table 4: Recommendations), which in turn strengthened public speaking and confidence (Table 4: Benefits). Pedagogically, these adaptations are exactly what experiential tasks like the OPAC-based Info Hunt are designed to produce, moving from abstract IL talk to hands-on, comprehensible instruction.

Development of Cultural Empathy and Global Awareness

Students described the cross-border setting as eye-opening, particularly when comparing UNAIR's library structures and practices with their own. As the report noted:

“While visiting other libraries, students learned a lot about UNAIR's library and the whole library system... The experience gave them numerous new ideas.”

Here, intercultural awareness (Table 4: Benefits) was not incidental; it emerged from purposeful encounters embedded in the Orientation Tour and Info Sharing modules. The reflections show students moving from “knowing about difference” to interpreting and applying those differences (e.g., borrowing ideas for local use), which is a hallmark of global professional awareness.

Strengthening of Teamwork and Adaptive Leadership

Running a live program required real-time coordination across roles (ushering, presenting, guiding the Info Hunt), under compressed timelines and technical hiccups. Students highlighted that collaboration and role clarity were decisive:

“They had to collaborate... teamwork is essential for embedding a culture of mutual respect and trust.”

The time constraints and logistical issues they faced (Table 4: Challenges) pushed them to improve time management and to recommend clearer role division and stronger host-partner coordination (Table 4: Recommendations). This is adaptive leadership in practice, where leadership expressed through collective problem-solving rather than individual authority.

Reinforcement of Professional Identity

Students consistently linked the experience to their future in librarianship:

“All the skills from this SULAM Program will help them manage library users when they become librarians in the future.”

This sense of professional readiness (Table 4: Overall Reflection) crystallised as they translated classroom IL into authentic service, guiding peers, fielding questions, and troubleshooting in a public setting. The outcome is squarely aligned with SULAM's aim of shaping socially engaged professionals. Students did not just learn to “teach IL”; they also began to see themselves as librarians.

The reflective report shows how learning occurred. Benefits such as communication, teamwork, leadership, confidence, public speaking, and intercultural awareness were developed through the challenges encountered, which included limited time, language barriers, and logistical issues. These benefits were further strengthened by pragmatic recommendations,

including additional rehearsal, clearer role assignments, more consistent language practice, and closer coordination with the host institution. The qualitative insights therefore complement the pre–post survey by explaining the mechanisms behind the observed changes and by directly supporting the study’s aims on instructional growth, cross-cultural engagement, and professional identity formation.

Summary of Impact

The quantitative and qualitative findings provide a comprehensive picture of the SULAM international IL outreach program. The survey results from UNAIR participants demonstrated significant improvements in IL competencies and very high levels of satisfaction with the program’s objectives, content, and overall delivery (Tables 2–3; Figures 1–2). These measurable gains validate the effectiveness of the peer-led, cross-cultural model in strengthening IL knowledge and confidence among learners.

At the same time, the reflective accounts from UiTMKDH facilitators reveal how these outcomes were achieved in practice. The facilitators’ narratives highlight the instructional adjustments, intercultural sensitivity, teamwork, and leadership strategies that enabled them to create meaningful learning experiences for their peers (Table 4). In other words, the confidence and satisfaction reported by UNAIR students were directly linked to the facilitators’ growth in communication, adaptability, and professional identity.

The convergence of both data sources underscores the reciprocal nature of peer-led service learning. For the learners, the program enhanced IL understanding, confidence, and willingness to share knowledge. For the facilitators, the program served as authentic professional preparation, reinforcing their pedagogical competence, intercultural empathy, and librarian identity. This dual benefit reflects the principles of experiential and service learning, where teaching and learning are mutually reinforcing processes that extend beyond classroom instruction into real-world, cross-cultural engagement.

Discussion

This study underscores the significant value of student-led, cross-border service learning as a transformative approach in LIS education. The notable improvement in IL competencies among UNAIR participants supports existing scholarship on the impact of service learning in fostering academic skills and civic responsibility. When IL instruction is embedded in real-life information tasks and situated within a community-oriented setting, students not only engage more deeply but are also more likely to retain and apply what they have learned in meaningful ways (Wahab et al., 2025).

The results echo the growing body of literature advocating for experiential IL pedagogy. Specifically, applied learning experiences, such as peer-led instruction and hands-on library activities, have been shown to enhance learners’ confidence and information-seeking behavior beyond what is typically achieved in traditional, lecture-based formats (Haritha & Rao, 2024). In this case, UNAIR students were not passive recipients of knowledge; rather, they became active participants in a collaborative and practical learning experience, which helped bridge theoretical understanding with everyday library use.

Equally important were the developmental outcomes observed among the UiTMKDH student facilitators. The transition from student to educator reflects substantial professional and personal growth. This finding aligns with Kolb's Experiential Learning Theory, which proposes that learning is most effective when individuals cycle through four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kayes & Kayes, 2021). The UiTMKDH students were not only involved in content design and instruction but also engaged in post-program reflection, which helped solidify their learning and broaden their perspective. As such, the program functioned as an incubator for cultivating essential soft skills (such as communication, leadership, adaptability, and collaboration) that are often underdeveloped in traditional LIS training models (Richardson et al., 2019; Haritha & Rao, 2024).

One of the most critical aspects of this initiative was the cross-cultural dynamic. The challenges faced (language differences, varying information literacy baselines, and distinct library systems) were not viewed as obstacles but as learning opportunities. Participants had to exercise patience, empathy, and adaptability to ensure mutual understanding. These dynamics are well documented in the IL literature, which emphasizes the need for culturally responsive pedagogy, especially when programs span national or linguistic boundaries (Leggett, 2019). The UiTMKDH–UNAIR collaboration exemplifies how such intercultural environments can foster not only IL learning but also global citizenship, intercultural competence, and inclusive educational practices (Wahab et al., 2025).

This program also offers valuable implications for the design of future LIS education. First, it highlights the efficacy of peer-led instruction in improving learner engagement and comprehension. Second, it reinforces the role of community-based learning in developing the professional identity of emerging librarians. Third, it demonstrates that international partnerships, when rooted in shared goals and cultural sensitivity, can be both scalable and sustainable. These insights align with current frameworks that call for integrating theory and practice through experiential learning, particularly within higher education settings (Haritha & Rao, 2024; Leggett, 2019).

Based on the findings, several recommendations can be made. Practitioners should consider designing IL outreach programs that incorporate structured peer facilitation, reflection, and outcome-based assessments. Such programs should also be tailored to reflect the local information ecologies and cultural contexts of the participants, ensuring that instruction is accessible, relevant, and inclusive. Finally, academic institutions are encouraged to explore more cross-border, student-led partnerships that combine experiential learning with community impact.

Future research should address several limitations. Most notably, this study relied on self-reported data, which, while insightful, may benefit from triangulation with more objective assessments such as performance tasks or knowledge tests. Longitudinal studies could also provide a deeper understanding of how the skills and confidence gained through such programs are retained and applied over time. Moreover, future investigations might explore variations in program design, including different reflection protocols, community partnerships, or facilitator training models, to better understand what elements most effectively contribute to learning and development (Kayes & Kayes, 2021; Haritha & Rao, 2024).

Conclusion

This study provides strong evidence that student-led, cross-cultural service learning is an effective approach to developing both information literacy (IL) competencies and professional readiness in the context of Library and Information Science (LIS) education. Across both quantitative and qualitative evidence, the study's objectives were achieved. UNAIR participants reported measurable gains in IL knowledge, confidence, and skills, while UiTMKDH facilitators experienced significant professional and pedagogical growth.

These findings are consistent with earlier research demonstrating how community-based, experiential learning, when grounded in authentic information tasks, can build technical capabilities alongside civic and social awareness (Gruber, 2016). At the same time, the transformation experienced by UiTM students, who served as facilitators, co-designers, and reflective practitioners, supports the value of experiential learning theory (ELT) in LIS education. Through active engagement in planning, delivering, and reflecting on instructional sessions, these future librarians developed essential skills in communication, leadership, adaptability, and intercultural empathy.

The cross-cultural setting of this program served not merely as a backdrop but as a catalyst for deeper learning. Participants navigated linguistic diversity, cultural norms, and distinct academic systems, factors that required them to adapt their approaches and become more culturally literate in the process. By embedding intercultural communication into instructional design, the program nurtured not only technical proficiency but also flexibility, empathy, and respect for diversity. This outcome aligns with calls for inclusive and context-sensitive IL pedagogy (Gruber, 2016).

The contributions of this study can be understood at three levels. At the academic level, this research expands the LIS pedagogy literature by documenting a peer-led, cross-cultural application of the SULAM framework. It demonstrates how experiential service learning advances both IL competencies and professional identity formation. At the professional and industry level, the model illustrates how LIS students can be prepared as practice-ready professionals who are capable of teaching, collaborating, and leading in diverse environments. The emphasis on teamwork, communication, and adaptability provides a replicable framework for training librarians and information professionals in increasingly globalized and digital workplaces. At the national and societal level, the initiative reflects Malaysia's SULAM agenda and broader higher education policies that emphasize graduate employability, global readiness, and community engagement. By fostering cross-border collaboration, the program contributes to the national aspiration of producing globally competent and socially responsible graduates who can strengthen equitable access to information.

Practically, this SULAM-modeled initiative offers a scalable and adaptable framework for integrating IL instruction with service learning in global education. The structure, which embedded IL into a course, conducted outreach in a foreign academic setting, and incorporated both quantitative and qualitative evaluations, responds to current pedagogical priorities in LIS and higher education. As curricula continue to evolve to address digital disruption, AI-enabled tools, and the increasing complexity of information systems, programs such as this provide a viable path forward. They prepare graduates who are not only information-competent but also socially responsive and culturally aware (Fasola, 2024; Deng, 2023; Hanell, 2020).

Several areas warrant further exploration. First, incorporating objective assessment tools such as standardized IL tests or performance-based evaluations would strengthen evidence of skill acquisition and transfer. Second, expanding the participant pool to include a wider range of disciplines, cultural backgrounds, and linguistic contexts would improve generalizability and provide deeper insight into facilitation dynamics. Third, longitudinal research is needed to examine whether gains in IL competence and instructional ability are retained as student facilitators transition into professional roles. Finally, future studies should consider integrating new literacies, including data literacy, algorithmic literacy, and AI literacy, into similar cross-cultural outreach frameworks. Doing so would not only enhance learner outcomes but also better prepare LIS graduates to serve diverse publics in an increasingly digital and global information environment.

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