Global Synergy, Local Impact : Optimizing Information Retrieval In Lampung Community Libraries Through Information Literacy Training Program By Lampung University And Charles Sturt University

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***Abstract**.*

International cooperation in community service is becoming increasingly crucial in the era of globalization. The D3 Library Study Program, FISIP Unila, in collaboration with the School of Information and Communication Studies-Charles Sturt University, carried out Community Service in International Cooperation (PKMKI) with a focus on improving information literacy for community library managers in Lampung Province. In an era of abundant information, the ability to search for accurate and relevant information is becoming increasingly important. However, many individuals have difficulty navigating the vast ocean of information. This service aims to overcome this problem by providing training on advanced information search techniques, especially through Google Advanced Search Operators. The methods used in this service include literature studies, field observations, interviews, and Focus Group Discussions (FGD) with community library managers. The results of this service are expected to improve the ability of library managers to provide better information services to the community. The outputs produced include a final service report, financial report, video documentation, and information literacy training modules.

Keywords: *International cooperation, Information literacy, and Community Service.*

I.   INTRODUCTION

The information age has brought us into the big wave of digital transformation, where the abundance of information is an inevitable phenomenon. The phrase "swimming, surfing and drowning in a sea of information" by Crawford and Gorman in their book Future Libraries: Dreams, Madness & Reality (1995) describes how such an abundance of information can pose new challenges in processing and understanding data effectively. This concept is also supported by predictions of "information waves" (Smith, 2018; Gradoselskaya et al., 2018), "information explosions" (Barnett, 1964; Hartley, 1987; Sharratt & McMurdo, 1991), and even "information tsunamis" (Lecht, 1992; Lodder & Morais Carvalho, 2022).This condition is increasingly relevant to the current internet and social media era, which not only accelerates the distribution of information but also presents new challenges such as information flooding, hoaxes, and information noise. Referring to Hendrawan and Purwanto Putra (2022), it is stated that the concept and practice of information, which in the context of this paper is knowledge management and information literacy, can also improve the ability of individuals to manage and utilize information more effectively (Hendrawan & Putra, 2022).This transformation has a significant impact on various institutions, including libraries, which are one of the main entities in providing information. With the emergence of the concept of digital and virtual libraries, the need for information literacy and data search capabilities is becoming increasingly important, having in- depth information literacy skills so that they are able to collect data and information including conducting searches based on web sources (Oktaria et al., 2023).

As stated by Gbaje (2016), information and communication technology (ICT) has become an important tool to increase access to information through social media, portals, and mobile applications.However, this abundance of information also brings with it the challenge of decreasing the

quality and accuracy of the information being disseminated. In this case, community libraries as information providers at the local level face a major challenge in navigating this increasingly complex information ecosystem. Information can be so complex, if that is the case, it requires various strategies and ways to manage the complexity of information, that it is also necessary to formulate appropriate information delivery programs and strategies (including policies) (Purwanto, 2019).Community library managers often face limitations in information literacy and effective data search strategies, hindering their ability to provide relevant, accurate and useful information to the community. In principle, information is managed to meet the information needs of the community (Purwanto & Khoiriah, 2020).As also explained by Apuke & Iyendo (2018), many communities still lack access to digital information sources, thus relying on alternatives such as smartphones and open access e-Journals to fulfill information needs.

This is exacerbated by low information literacy skills, lack of understanding of information retrieval (IR), and lack of use of advanced search features such as Google Advanced Search Operators.In the context of a lack of literacy skills, for example, in terms of services in the library, it will also be very disturbed, the public or the community as users are not well served due to the lack of knowledge and skills of community library managers. So a coaching is needed, which in this case can take the form of literacy provision, especially information literacy and digital literacy (Andi et al., 2020). In addition, the limited resources of the various related agencies responsible for this matter are the main obstacle in advancing human resources in terms of literacy skills. Therefore, strategic interventions are needed through training and mentoring programs designed to improve information literacy and data search skills among community library managers.This community service is designed to answer these challenges with the main objective of improving the information literacy skills of community library managers in Lampung. Collaboration between the D3 Library Study Program at Lampung University and Information Studies at Charles Sturt University is the main framework in designing and implementing this program. With a focus on the application of information search technology such as Google Advanced Search Operators and the development of an information retrieval framework, this activity is expected to create a significant positive impact.Through mapping existing conditions, intensive training, and ongoing assistance, this service aims to overcome existing limitations and prepare community library managers to face the challenges of the digital era. In addition, this service is expected to contribute to improving the quality of information presented by community libraries, thus supporting the development of community information literacy at the local and national levels.

Thus, this program is not only a solution to local problems, but also provides a model for developing information literacy that is relevant in the era of the Industrial Revolution 4.0.That strategic steps for strengthening information managers (community library managers) can be taken through increasing the frequency of training and intensifying information literacy assistance and information search strategies (Anggraini & Supriyanto, 2019). Based on the explanation above, the formulation of the problem and at the same time the purpose of this service is to map the extent of increasing information literacy skills and more applicable benefits for information retrieval for community library managers in Lampung Province.

II. METHODS

This community service program was implemented using a participatory and collaborative approach, which aims to improve information literacy and information search skills among community library managers in Lampung Province. The implementation of activities adopted a workshop-based training method by utilizing digital technology and international collaboration as the main supporting elements. Some data sources were also collected using the literature study method. Literature study is important, as one of the primary sources to portray the general condition of the community more fully (Putra et al., 2021). In this service activity, data sources are explored using the literature study method obtained at various information institutions and online searches (Oktaria & Putra, 2021).

The following are the detailed steps of the activity implementation:

1. **Preparation Stage**

At this stage, the service team prepares all technical needs and materials that support the implementation of activities, including identification of needs, preparation of training modules, and planning of activity schedules (1) Identification of Needs; The service team conducted an initial survey to identify the needs of community library managers related to information literacy and information search skills. Data was collected through interviews, questionnaires, and direct observation. (2) Preparation of Training Materials; Training materials were designed based on the results of needs identification, including the use of Google Advanced Search Operators, Boolean Logic, and relevant information search techniques. The team also collaborated with Charles Sturt University to develop training modules with international standards. And (3) Determination of Participants and Schedule; Participants were selected from community library managers in several regions in Lampung. The training was scheduled for two intensive days, with theoretical and practical sessions.

2. **Implementation Stage**

This stage is the core implementation of the program where participants take part in theoretical and practical training to improve information literacy and information search skills. (1) Training Implementation: Training activities took place on August 14-15, 2024, involving presenters from Lampung University and Charles Sturt University. The training included: first, an introduction to the concept of information literacy. Information search techniques using Google Advanced Search Operators and Boolean Logic. And, secondly, hands-on practice using digital devices.

(2) Practical Assistance; after the theoretical session, participants practiced information search with the guidance of the speaker. This mentoring aims to ensure participants' understanding of the material presented.

3. **Monitoring and Evaluation Stage**

This stage aims to assess the effectiveness of activities through monitoring the implementation and evaluation of participants' learning outcomes, as well as preparing a final report as a basis for further program development. (1) Implementation Monitoring: The service team conducted monitoring during the training to ensure the smooth running of the activities and identify obstacles faced by the participants. (2) Participant Evaluation; The evaluation was conducted through pre-test and post-test to measure the improvement of participants' understanding and skills. The evaluation results show the effectiveness of the training in improving information literacy and information search skills. (3) Preparation of Reports and Recommendations; After the training is completed, the service team prepares an activity report that includes the results of monitoring, evaluation, and recommendations for future program development.The methods applied in this program are expected to not only provide direct benefits to participants but also become a model for developing information literacy at the community level, which can be replicated in other areas.

III. RESULT AND DISCUSSION

The implementation of this community service program produced several significant outcomes in the form of services, new skills, and socio-cultural engineering to support the improvement of information literacy among community library managers in Lampung Province. The following is a detailed explanation of the service team and the division of tasks.In the implementation of this service, the division of tasks between the chairperson, service members, and students is clearly designed to ensure the smooth running of activities. This structured division of tasks is very important to maximize the efficiency of each individual in the team, while ensuring that every part of the service process can be carried out properly. This division of tasks also includes assignments that are relevant to the expertise, educational background, and practical experience of each team member, so that everyone can contribute optimally to the implementation of the program. For example, in this team, each member has different responsibilities in terms of data collection, analysis, and implementation of field activities.Dra. Ida Nurhaida, M.Si. as the service leader has the main responsibility to ensure that the entire service process goes according to plan. As the main person in charge, she not only oversees the course of activities, but also acts as the main director in making strategic decisions and solutions to challenges that may arise during program implementation. She also plays a role in ensuring

that the service objectives can be achieved with maximum results. Not only that, Dra. Ida's role is vital in team management and effective communication flow between service members and other related parties, such as the community or external parties who collaborate in this service.In addition, Dra. Ida has excellent managerial skills in managing various existing resources, including human and material resources.

In carrying out the service, she also prioritizes the participatory principle, where each team member is given space to provide input and constructive ideas. This is important so that service activities are not only dominated by one party, but can accommodate various perspectives which in turn will enrich the results of the service. As chairman, he is also tasked with keeping the evaluation and feedback process running well, to ensure continuous improvement throughout the activity.The next division of tasks involves service team members who have specific roles in supporting the course of activities. Each team member is given responsibilities according to their expertise and fields.Some team members were assigned to collect data through interviews, which required skills in communicating and analyzing information from the interviewees. Meanwhile, other members focused more on facilitating and organizing focus group discussions (FGDs) aimed at digging deeper information about the conditions and needs of the community related to this service. This assignment is very important to ensure that data collection takes place systematically and can be accounted for.In addition, there are members who are responsible for conducting community group studies. This task involves direct interaction with the community or target group, where they can dig up more information about the problems faced by the community. This group is tasked with building strong relationships with the community, as well as providing education or training relevant to the service topic. For this reason, team members involved in this group study need to have good interpersonal skills and a deep understanding of the local context.A clear and systematic division of tasks ensures that each aspect of the community service initiative can be carried out effectively and efficiently. One equally important aspect is communication between the team leader and other members.

At every stage, open and transparent communication is essential to ensure that all team members receive clear information regarding the progress of activities, challenges encountered, and potential solutions that may need to be implemented. Therefore, Dra. Ida also plays a crucial role in coordinating regular meetings to ensure that all team members have a shared understanding of the direction and objectives of the initiative, as well as to promptly address any emerging issues.On the other hand, students participating in this community service program also play a crucial role in ensuring the smooth implementation of activities. As part of the service team, they are given the opportunity to gain direct experience through practical engagement and actively contribute to the execution of the program. Students are assigned tasks that allow them to participate in field data collection, preliminary analysis, and documentation of program outcomes. This experience is expected to enhance their understanding of the practical application of theories learned in academic settings while simultaneously improving their practical skills in the fields of conservation and preservation.The successful implementation of this community service program relies not only on an effective division of tasks but also on harmonious collaboration among all parties involved. Strong collaboration between the program leader, team members, and students fosters positive synergy in achieving the program's objectives. A clear division of responsibilities and well-established communication enable the team to collectively address any emerging challenges. Furthermore, an appropriate allocation of tasks enhances individual responsibility and engagement, ensuring that the entire team works toward a shared goal with high motivation and optimal outcomes.

Community Service Outcomes: FGD and Training

This community service program was conducted over two days, on October 2–3, 2024, with the objective of enhancing the information literacy skills and information retrieval strategies of community library managers. The activities took place in two different locations, combining both in-person (offline) and online methods to accommodate participants from various regions.On the first day, the program was conducted in a hybrid format, utilizing the Zoom Meeting platform for online participants and held at Building A of the Faculty of Social and Political Sciences, Universitas Lampung, for those attending in person. The main agenda for the first day was a Focus Group Discussion (FGD), which aimed to provide a platform for participants to engage in discussions, share experiences, and address challenges related to

information management in their respective community libraries.The Focus Group Discussion (FGD) conducted on the first day was designed to explore the challenges faced by community library managers in managing and providing relevant information to the public.

Participants were given the opportunity to discuss the daily obstacles they encounter, as well as potential opportunities to improve their library services. Through group discussion methods, participants were able to express their opinions more freely and identify practical solutions that could be directly implemented in the field. Additionally, the FGD facilitated the establishment of networks among community library managers across the Lampung region, enabling them to share knowledge and experiences with one another.On the second day, the program continued in a hybrid format at Hotel Emersia, Bandar Lampung. This session focused on in-depth technical training on the use of Google Advanced Search Operators for more effective and efficient information retrieval. One of the key speakers on the second day was an expert from Charles Sturt University, Australia, who provided insights into advanced information search techniques that community library managers can utilize to retrieve and manage information more effectively. The presence of an international speaker was particularly significant, as it offered a broader perspective on information retrieval practices that can be applied across different countries, including Indonesia.

Fig 1. Implementation of FGD Activities Day 1 Community Service

Fig 2. Implementation of FGD Activities Day 1 Community Service

The online method was implemented on both the first and second days to facilitate the participation of a speaker from Charles Sturt University via Zoom, addressing the challenges of distance and time constraints. The presence of an international speaker through a virtual platform added significant value for the participants, as it enabled direct interaction with an expert without being limited by geographical boundaries. Although the program was conducted in a hybrid format, the session proceeded smoothly due to the effective use of technology, which facilitated seamless communication between offline and online participants. The participation of individuals from various locations also ensured that the program reached a wider audience in need of knowledge on more effective information retrieval strategies.

Fig 3. FGD activities are carried out offline and online

Fig 4. Community Service Team Resource Person, Lecturer from Charles
Sturt University Present Online at Activities.

During the program, participants were given the opportunity to practice using Google Advanced Search Operators under the guidance of instructors and expert speakers. Through these exercises, they learned specific techniques to optimize online information retrieval, such as using quotation marks to search for exact phrases, Boolean operators to refine searches, and filters to narrow results based on specific criteria. Participants showed great enthusiasm for this session, as they could immediately recognize its benefits in simplifying the process of finding relevant data for their community libraries. This hands-on practice significantly enhanced their skills, enabling them to apply these techniques effectively in their daily work.

Overall, this program successfully achieved its primary objective of enhancing the information literacy skills of community library managers in Lampung Province. The implementation of pre-tests and post-tests demonstrated a significant improvement in participants' understanding of information literacy and search strategies. Furthermore, the program strengthened the collaboration between the D3 Library Science Program at Universitas Lampung and Charles Sturt University, while also providing participants with opportunities to develop their skills in managing information more effectively. Given these positive outcomes, it is expected that community library managers will be able to offer improved services to the public and optimize the use of technology for information retrieval and management.

Knowledge and Skills Gained from the Community Service Program

1. New Models and Skills

The primary outcome of this program was the introduction and implementation of information retrieval strategies based on Google Advanced Search Operators and Boolean Logic. This model was designed to enhance the ability of community library managers to filter and locate relevant, accurate, and in-depth information. Additionally, the training introduced the Information Retrieval (IR) framework as a systematic approach to information retrieval. This approach serves as a crucial solution to address the phenomenon of "information overload" (Smith, 2018; Gradoselskaya et al., 2018), which often poses challenges for users in navigating digital data efficiently.The documentation of the training program includes the introduction of information literacy concepts, hands-on practice with digital tools, and information retrieval simulations with direct guidance from the facilitators. Photographic evidence captures participants actively engaging in both theoretical and practical sessions, reflecting their enthusiasm and commitment to

acquiring new skills. Additionally, a pre-test and post-test analysis revealed an average improvement of 45% in participants' information literacy understanding, reinforcing the effectiveness of this technology- based approach (Apuke & Iyendo, 2018).

2. Activity Documentation

The documentation of the program includes photographs, tables, and relevant graphs. Training photos depict participants using digital tools to practice information retrieval techniques. One of the tables presents a list of specific keywords successfully utilized by participants with the assistance of Google Advanced Search Operators, demonstrating an improved understanding of advanced search features. Additionally, a visual workflow diagram of the information retrieval process was provided to facilitate participants' comprehension of more effective search strategies, aligning with the information retrieval guidelines (Gbaje, 2016).Additional results indicate a significant improvement between the pre-test and post-test scores, with an average increase of 45% in participants' understanding and skills. This outcome reflects the success of the program in fostering practical and relevant information literacy that aligns with the needs of the local community.

3. Strengths and Weaknesses

One of the key strengths of this program is its relevance to the needs of the local community, which increasingly relies on digital technology. These newly acquired skills empower community library managers to become more independent and efficient in meeting users' information needs. Furthermore, the collaboration with Charles Sturt University enriched the training methods by incorporating globally relevant approaches (Titsing, 2020).However, one of the identified weaknesses is the limited technological infrastructure in some community libraries. Several participants faced difficulties in accessing digital devices and stable internet connectivity, highlighting the need for additional solutions such as improving internet access and providing supporting equipment. This challenge aligns with previous studies on infrastructure limitations in regions with low technology access (Ivwighreghweta & Igere, 2014).

4. Level of Difficulty and Opportunities

The main challenge in implementing this program was the varying levels of digital literacy among participants, requiring a more personalized approach and intensive mentoring. Some participants needed additional time to grasp new concepts, such as Boolean Logic. However, the opportunities for success remain high, given the enthusiasm of participants and the potential for replicating this program in other regions.The primary opportunity lies in the potential of this program to serve as a national model for enhancing information literacy. With continued support from local governments and educational institutions, the program can be expanded to reach more communities and institutions across Indonesia. This aligns with the recommendations of Khan et al. (2021) regarding technology-based capacity development initiatives.

This program has not only successfully enhanced participants' information literacy skills but also strengthened the role of community libraries as local information hubs. Through technology-based training and mentoring, library managers are now better equipped to navigate the challenges of the digital era. The program's documentation highlights its success, although infrastructure challenges remain and require cross-sectoral collaboration to be addressed. Consequently, this initiative serves as both an innovative solution and a model for developing information literacy that is relevant to a broader community.

Fig 5. Day 2 of Training Implementation

Fig 6. Day 2 of Offline and Online Training Implementation

IV.   CONCLUSION

The implementation of this community service program has successfully achieved its primary objective: enhancing information literacy and information retrieval skills among community library managers in Lampung Province. Based on the analysis of pre-test and post-test results, there was a significant improvement in participants' understanding and abilities, particularly in utilizing efficient search strategies such as Google Advanced Search Operators and Boolean Logic. Moreover, this training had a positive impact on the quality of community library services, enabling managers to provide relevant, accurate, and credible information to their users.The collaboration with Charles Sturt University was a key factor in the success of this program, significantly contributing to the enhancement of training methods and expanding participants' understanding of the importance of information literacy in a global context. Despite challenges such as limited technological infrastructure, ongoing mentoring efforts and support for facility improvements are expected to help community libraries in Lampung continue to develop. Consequently, community libraries can serve as agents of change, actively promoting sustainable information literacy within society.

As a follow-up to the outcomes of this program, it is recommended that information literacy training and information retrieval strategy workshops be conducted on a continuous basis with a more intensive approach. Community library managers require ongoing mentoring to effectively apply the skills they have acquired, particularly in technology-based search techniques, such as Google Advanced Search Operators. Additionally, support from universities and local governments is essential in providing better infrastructure, including reliable internet access and adequate technological resources, to ensure the optimal success of this initiative.Collaboration with international institutions, such as Charles Sturt University, should continue to be strengthened to bring best practices and the latest innovations in information literacy to the local level. Such partnerships can broaden perspectives and inspire community library managers to continuously enhance the quality of their services. With enhanced technological capacity and human resource development, community libraries are expected to become relevant information hubs, supporting information literacy improvement within society and contributing to the broader literacy ecosystem development.

V.   ACKNOWLEDGMENTS

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