



Cross-Disciplinary Synergy: The Collaborative Role of Lecturers in PKM for Optimizing the Tri Dharma

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Article History:

Received: Mei 25, 2025;

Revised: Juni 12, 2025;

Accepted: Juni 25, 2025;

Published: Juni 26, 2025;

Keywords :

lecturer synergy, interdisciplinary collaboration, PKM, Tri Dharma of Higher Education, educational innovation.

ABSTRACT. The community service program or PKM is a strategic initiative aimed at developing student potential while serving as a platform for implementing the Tri Dharma of Higher Education. This article examines the collaborative role of interdisciplinary lecturers in mentoring PKM and their contribution to optimizing education, research, and community service. Using a descriptive-qualitative approach, the discussion focuses on how synergy among lecturers from diverse academic backgrounds enhances the quality of proposals, strengthens applied research, and promotes innovative solutions for society. Such collaboration not only broadens students' perspectives but also reinforces the role of lecturers as key agents in the advancement of impactful and relevant knowledge. The findings indicate that lecturer collaboration in PKM plays a crucial role in fostering a productive academic environment and in achieving sustainable outcomes in the Tri Dharma. Therefore, institutional support, incentive policies, and a structured collaborative ecosystem are essential for success.

1. BACKGROUND

Higher education institutions have a primary mandate to implement the Tri Dharma, namely education and teaching, research, and community service. These three elements must be carried out in a balanced and mutually reinforcing manner so that universities can fulfill their role as centers for knowledge development and agents of social transformation. In this context, the Student Creativity Program (PKM) emerges as a strategic instrument that integrates the three aspects of Tri Dharma through the active involvement of students and lecturers.

The role of lecturers in PKM is not limited to technical supervisors only but also as facilitators, collaborative partners, and bridges between theory and practice. Moreover, cross-disciplinary collaboration among lecturers in mentoring PKM has become an increasingly relevant approach in an era marked by complex social problems and demands for innovation. Through the synergy of knowledge, lecturers can complement each other by providing holistic perspectives on an issue, while also fostering a collaborative and transformative learning environment for students.

This collaborative practice still faces several challenges, such as limited time, lack of institutional support, and the absence of a well-established collaboration ecosystem. Therefore,

it is essential to examine how lecturer collaboration in PKM, especially cross-disciplinary collaboration, can be optimized to support the achievement of Tri Dharma more effectively and sustainably. This article aims to explore the collaborative role of lecturers in PKM and offer strategic approaches to strengthen academic synergy within the university environment.

The Tri Dharma of Higher Education is a fundamental foundation that distinguishes higher education institutions from other educational entities. These three pillars include education and teaching, research and development, and community service. Education and teaching play a role in transforming knowledge, skills, and values to students through a structured learning process based on the advancement of science and technology. Research is a pillar emphasizing the creation of new knowledge and the development of science that can support the learning process and provide solutions to various real-world problems. Meanwhile, community service is a concrete form of the social responsibility of academics to apply knowledge in helping society solve problems, thereby creating a reciprocal relationship between campuses and communities. These three elements are synergistic and inseparable because the balanced and integrative implementation of Tri Dharma is a key indicator of the quality of a higher education institution (Ministry of Education and Culture, 2020; Directorate General of Higher Education, 2021).

Lecturers have a central role in implementing the Tri Dharma of Higher Education, namely as educators, researchers, and community service implementers. In the realm of education and teaching, lecturers are not only tasked with delivering course material but also guiding, motivating, and shaping students' character to become competent, critical, and integrity-driven graduates. In research, lecturers act as drivers for the development of science and technology, both through basic and applied research that can produce scientific publications, innovations, and patents. In community service, lecturers act as agents of social change by applying research results and expertise to help solve real problems in society through training, mentoring, and community empowerment. Furthermore, lecturers also build collaborative networks with industry partners, government, and civil society to expand the impact of Tri Dharma. Therefore, the role of lecturers is very strategic in realizing the university's vision as a center of academic excellence and national progress (Ministry of Education and Culture, 2020; Directorate General of Higher Education, 2021; Law Number 14 of 2005 on Teachers and Lecturers).

Collaboration among lecturers in community service is a tangible form of implementing the Tri Dharma that has broad and sustainable impacts. Through cooperation among lecturers from various disciplines, community service can be designed with a more effective

multidimensional approach to solve complex societal problems. This collaboration allows the combination of expertise, resources, and complementary networks so that community service programs are not merely symbolic but capable of providing applicable and sustainable solutions. In addition, lecturer collaboration in community service encourages direct knowledge and technology transfer to the community, strengthens local capacity, and broadens social impact. This collaborative approach also strengthens the relationship between universities and communities, builds trust, and creates empowerment models that can be replicated in other regions. Therefore, collaboration among lecturers is a crucial key to improving the quality and relevance of community service while reinforcing the role of universities as agents of social change (Ministry of Education and Culture, 2020; Sari & Nugroho, 2021).

Besides the primary benefits such as improving the quality of PKM mentoring and strengthening the Tri Dharma, lecturer collaboration also has other significant advantages in the context of university development. First, collaboration promotes peer learning among lecturers, allowing their academic and professional competencies to develop continuously. Second, collaboration helps reduce individual workload by sharing responsibilities proportionally, making the work process more efficient and structured. Third, cross-disciplinary collaboration opens opportunities to obtain larger and more diverse research funding or grants because proposals submitted have broader and more innovative scopes. Fourth, collaboration strengthens the institution's profile and reputation nationally and internationally through joint publications, conferences, and academic networks. Finally, collaboration fosters an inclusive and communicative work culture, which can improve lecturer motivation and job satisfaction while creating an academic environment conducive to innovation (Susanto, 2019; Widodo & Hartono, 2022).

Lecturer collaboration provides various strategic advantages for universities in efforts to improve institutional quality and competitiveness. First, collaboration strengthens academic quality and research, resulting in increased quantity and quality of scientific publications, which are key indicators of accreditation and university reputation. Second, with cross-disciplinary and inter-faculty collaboration, universities can offer more innovative and relevant education and research programs aligned with societal needs and contemporary developments. Third, collaboration broadens access to external resources such as grants, industry partnerships, and national and international networks that support institutional capacity development. Fourth, lecturer collaboration fosters a dynamic and inclusive academic culture that motivates teaching staff to continuously innovate and contribute maximally. Thus, collaboration not only

improves the quality of Tri Dharma but also strengthens the university's position as a center of excellence in science and technology capable of competing globally (Ministry of Research and Technology, 2020; Prasetyo, 2021). Based on the above explanation, the PKM title chosen is *"Cross-Disciplinary Synergy: The Collaborative Role of Lecturers in PKM to Optimize Tri Dharma."*

2. RESEARCH METHODOLOGY

In the context of collaboration among lecturers from various regions, a mixed methods approach is highly effective. This approach combines quantitative and qualitative methods to obtain more comprehensive data. Quantitative data, such as surveys and statistics, provide valid numerical overviews, while qualitative data, including in-depth interviews and observations, help understand the unique social and cultural contexts of each region (Creswell, 2014). Moreover, the Participatory Action Research (PAR) approach is very suitable for collaborative research across regions. This approach actively involves lecturers and local communities in the research process, ensuring that the results are not only academic but also practical and have direct impacts on the community. PAR emphasizes partnership and empowerment, making research a tool for social change (Baum et al., 2006).

An interdisciplinary approach is essential when lecturers come from different fields of study and regions. This approach integrates various perspectives and methods from diverse disciplines to holistically solve complex problems. Consequently, the research outcomes become more innovative and relevant to the actual needs of the community (Repko, 2012). Additionally, descriptive qualitative and quantitative approaches can be employed to clearly depict phenomena occurring in the field. These approaches help to understand specific conditions in each region, both statistically and narratively, so that the data obtained is accountable and easy to analyze (Sugiyono, 2017). Lastly, the use of an open and flexible system approach is strongly recommended to overcome geographical challenges and contextual differences across regions. Flexibility in data collection methods and communication, including the utilization of information and communication technologies (ICT), is key to successful coordination among dispersed teams (Miles et al., 2014).

3. RESULTS AND DISCUSSION

The collaboration of lecturers from various regions in community service has yielded significant achievements, particularly in enhancing the effectiveness of empowerment programs through a multidisciplinary approach. Lecturers from diverse fields such as agronomy, economics, and information technology collectively provide technical training, business management, and digital technology utilization, resulting in a more holistic program tailored to the specific needs of the community. This approach also successfully increases active community participation, evident from the high attendance and engagement in service activities.

Research Methods for Lecturer Collaboration Across Regions

1. Multilocation Collaborative Research Design

The research is designed to accommodate different locations, where each local team is responsible for specific parts according to their expertise and regional resources. Results from each location are collected and analyzed integratively to obtain a comprehensive overview.

2. Utilization of Information and Communication Technology (ICT)

The use of online communication platforms such as Zoom, Microsoft Teams, or Google Meet is the primary key for coordination meetings, progress discussions, and real-time decision making. In addition, cloud storage tools like Google Drive or Dropbox facilitate document and data sharing.

3. Clear Division of Tasks and Structured Scheduling

Roles are clearly divided among lecturers based on expertise and availability, with flexible yet coordinated work schedules. For example, the team in Region A focuses on data collection, while the team in Region B handles data analysis and report writing.

4. Flexible Data Collection Methods

Data collection is conducted locally by each lecturer or team in their respective regions using methods appropriate to the local context, such as surveys, interviews, observations, or field experiments. Data are then sent and synchronized with the central coordination team.

5. Regular Evaluation and Monitoring

Routine online meetings are conducted to evaluate progress, resolve issues, and formulate next steps. Periodic progress reports help monitor the quality and alignment of research outcomes.

6. Joint Documentation and Publication

All activities, findings, and research results are documented centrally. At the final stage, lecturers from various regions collaborate to compile articles or scientific reports that represent the collective contributions of the entire team.

Program evaluations reveal an improvement in community capacity to manage local resources and develop micro-enterprises, with positive economic, social, and environmental impacts, including increased awareness of environmental preservation and waste management. This success is supported by intensive coordination among lecturers via online platforms, facilitating information exchange and decision-making despite geographical dispersion.

These findings emphasize the importance of cross-disciplinary and cross-regional synergy in community service. The multidisciplinary approach involving various disciplines enables programs that are not only technical but also address social and economic aspects, in line with the principles of Participatory Action Research (Baum et al., 2006). Active community involvement demonstrates the effectiveness of communication strategies and contextual approaches consistent with participatory research principles (Creswell, 2014)

In the context of the title “*Cross-Disciplinary Synergy: The Collaborative Role of Lecturers in PKM to Optimize Tri Dharma*”, the objectives of community service are as follows:

1. To produce relevant and impactful community service programs through the synergy of cross-disciplinary expertise among lecturers in comprehensively addressing community needs.
2. To increase active community participation in the planning and implementation of service activities, thereby creating effective and sustainable solutions.
3. To strengthen community capacity by providing training, mentoring, and technology transfer tailored to local conditions.
4. To integrate research findings with community service to ensure that developed innovations can be practically applied in the field.
5. To expand collaboration networks between universities and communities to reinforce social and academic networks that support community development.
6. To enhance the reputation and strategic role of universities as centers for knowledge development that directly benefit the broader society.

The utilization of communication technology is a key factor in the success of coordination, enabling an open and flexible system that minimizes distance and time constraints and supports dynamic program adaptation (Miles et al., 2014). This collaboration enhances the quality of community service and broadens its sustainable social impact,

strengthening the relationship between higher education institutions and communities as agents of development (Ministry of Education and Culture, 2020).

The applied mixed methods methodology in this collaboration successfully produced rich quantitative and qualitative data that are contextual and valid, strengthening the relevance of the results. Online coordination facilitates periodic monitoring and evaluation, while the participatory approach improves the quality and sustainability of service programs. Additional benefits of cross-regional collaboration include the expansion of scientific networks and resources that enrich perspectives and methods, broader and more representative data collection, efficient task division, and increased professional capacity of lecturers contributing to institutional reputation (Repko, 2012; Miles et al., 2014; Prasetyo, 2021). However, challenges such as differences in academic culture and work styles, technical constraints in technology access, synchronization of work schedules, and prolonged decision-making due to the involvement of multiple parties must be managed to ensure optimal collaboration.

4. CONCLUSION

Lecturer collaboration in the Student Creativity Program (PKM) is an effective strategy to improve the quality of the Tri Dharma of Higher Education, namely education, research, and community service. Cross-disciplinary and cross-regional synergy enriches knowledge, expands research coverage, and produces community service programs that are more contextual and have broad impacts. Communication technology enables effective coordination despite geographical dispersion. Although some challenges exist, the benefits of collaboration far outweigh them, particularly in strengthening academic networks and enhancing the capacities of lecturers and students. Therefore, lecturer collaboration should be continuously encouraged and developed as an integral part of strengthening the Tri Dharma in higher education institutions.

5. RECOMMENDATIONS

1. Higher education institutions need to provide adequate communication technology facilities and training for lecturers to support effective cross-regional collaboration.
2. It is recommended to implement a flexible and structured coordination mechanism to overcome time zone differences and diverse work cultures among lecturers.
3. Building an inclusive collaborative culture by encouraging open communication and participatory decision-making is essential.

4. Collaborative program development should consider local contexts and community needs to ensure that the service outcomes are more relevant and sustainable.
5. Lecturers and institutions must continuously enhance their capacities through training and further studies to support quality cooperation.

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