



INNOVATIVE EXPERIENTIAL LEARNING–BASED LEADERSHIP TRAINING FOR TRANSFORMING STUDENT COMPETENCIES IN ORGANIZATIONAL CONTEXTS

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ABSTRACT

This community engagement program aims to strengthen student leadership capacity through experiential learning–based training. The implementation method began with a needs assessment conducted through observation and discussions with the board members of the Mathematics Education Student Association at PGRI Yogyakarta University to identify participants' initial understanding of leadership and organizational management. Based on the assessment results, a training plan was developed that included material design, instructional methods, selection of trainers, and preparation of evaluation instruments. The training was carried out using interactive lectures, simulations, case studies, and group discussions, followed by leadership practice and reflective activities. Monitoring and evaluation were conducted through questionnaires, interviews, observations, and analysis of pretest and posttest results. The findings demonstrated a significant improvement across all assessment components, particularly in strategic thinking, communication, decision-making skills, and the application of leadership roles within organizational contexts. Follow-up actions included continued organizational mentoring and the development of an advanced leadership improvement program. Thus, the training program proved effective in enhancing student leadership competence both conceptually and practically, and it holds strong potential for sustainable implementation within campus organizations.

Keywords: *Student leadership, experiential learning, leadership training*

ABSTRAK

Program pengabdian masyarakat ini bertujuan meningkatkan kapasitas kepemimpinan mahasiswa melalui pelatihan berbasis *experiential learning*. Metode pelaksanaan diawali dengan identifikasi kebutuhan melalui observasi dan diskusi dengan pengurus Himpunan Mahasiswa Pendidikan Matematika PGRI Yogyakarta University untuk mengetahui pemahaman awal peserta terkait kepemimpinan dan manajemen organisasi. Berdasarkan hasil asesmen, disusun perencanaan pelatihan mencakup desain materi, metode pembelajaran, penentuan pemateri, serta penyusunan instrumen evaluasi. Pelatihan dilaksanakan menggunakan metode ceramah interaktif, simulasi, studi kasus, dan diskusi kelompok, kemudian dilanjutkan dengan praktik kepemimpinan dan refleksi. Monitoring dan evaluasi dilakukan melalui angket, wawancara, observasi, serta analisis hasil pretest dan posttest. Hasil pelatihan menunjukkan peningkatan signifikan pada seluruh aspek penilaian, terutama dalam kemampuan berpikir strategis, komunikasi, pengambilan keputusan, serta penerapan peran kepemimpinan dalam konteks organisasi. Tindak lanjut dilakukan melalui pendampingan organisasi dan penyusunan program pengembangan lanjutan. Dengan demikian, pelatihan ini terbukti efektif dalam meningkatkan kompetensi kepemimpinan mahasiswa baik secara konseptual maupun aplikatif serta berpotensi diterapkan secara berkelanjutan di lingkungan organisasi kampus.

Kata Kunci: *kepemimpinan mahasiswa, experiential learning, pelatihan kepemimpinan*

1. INTRODUCTION

Developing student leadership capacity is a critical element in preparing future intellectuals who are able to contribute strategically within organizations, communities, and professional environments. Higher education institutions are expected not only to produce graduates with strong academic competencies but also to shape adaptive, visionary, and collaborative leadership character capable of responding to the complexities of the digital era and global challenges [1]. In the context of mathematics education, leadership competence holds even greater urgency, as future teachers are expected to manage classroom learning, collaborate within academic communities, and lead organizational or professional initiatives in school and community settings [2]. However, several studies have shown a gap between the leadership competencies required and the practical experience acquired by students throughout formal learning processes at the university level [3].

Student leadership within campus organizations often develops through direct experiential processes rather than purely theoretical instruction. Unfortunately, leadership development programs in many institutions still rely heavily on lecture-based or one-directional knowledge delivery, which is insufficient to foster strategic thinking, effective communication, problem-solving, and context-based decision-making skills [4], [5]. This condition reinforces the need for leadership training that is more innovative, participatory, and contextual, enabling students to internalize leadership not merely as a theoretical concept but as an applied and measurable competence [6]. A development model grounded in real practice, such as experiential learning, is therefore considered a relevant strategy to address this gap.

Experiential learning as a training approach is rooted in the premise that the most meaningful learning occurs through structured experience, critical reflection, and reapplication within relevant contexts [7]. This approach enables students to engage in a learning cycle involving concrete experience, reflective observation, abstract conceptualization, and active experimentation. Through this cycle, individuals learn not only from theory but also from real experiences in leading, making decisions, negotiating, and solving organizational problems [8], [9]. Thus, experiential learning enhances not only technical leadership competence but also self-awareness, empathy, strategic flexibility, and interpersonal capability.

Within the context of the Mathematics Education student organization at PGRI Yogyakarta University, experiential learning-based leadership development becomes a strategic necessity, as students hold dual roles as future educators and prospective leaders in academic and school-based organizations. Previous studies show that mathematics education students actively engaged in campus organizations demonstrate significantly higher soft-skill development particularly in communication, conflict management, and collaborative work compared to non-active students [10]. However, without a structured formal intervention, these competencies tend to develop unevenly and are largely dependent on individual experience and opportunity [11]. Therefore, a systematically designed training program with measurable outcomes is required.

Experiential learning-based leadership training also aligns with institutional goals to strengthen a collaborative, professional, and growth-oriented organizational culture within the university environment. Research indicates that experiential learning implementation significantly enhances self-efficacy, communication competence, reflective thinking, and leadership capability when compared to traditional training models [12], [13]. Moreover, this model provides structured opportunities for students to practice leadership directly in real or simulated organizational contexts, such as facilitating meetings, managing programs, or engaging in collective decision-making.

Based on these needs and empirical findings, experiential learning-based leadership training serves as a strategic solution to support the transformation of competencies among Mathematics Education students at PGRI Yogyakarta University. This program is expected not only to enhance conceptual and technical leadership skills but also to cultivate leadership character grounded in professionalism, responsibility, collaboration, and continuous reflection. Through this approach, students are expected to demonstrate more effective leadership both within campus organizations and in their future roles as educators. Therefore, this training initiative functions not only as a short-term intervention but also as a sustainable competency development model that supports the institution's mission to produce academically excellent graduates with strong leadership qualifications.

2. LITERATURE REVIEW

2.1. Student Leadership

Student leadership is widely recognized as a crucial aspect of holistic education, particularly in higher education settings where students are expected to develop both academic competence and leadership capacity. According to Widyastuti et al. [14] and Aprilia et al. [15], student leadership involves the ability to influence peers, initiate organizational change, and demonstrate responsibility in collective decision-making. Leadership in this context is not only connected to formal positions such as student council or organizational committees, but also includes informal leadership roles shaped through initiative, collaboration, and problem-solving in campus environments [16]. Research indicates that student leadership fosters essential skills such as communication, critical thinking, teamwork, and emotional intelligence, which are foundational for professional and academic growth [17],[18].

Furthermore, student leadership contributes to identity formation and the development of agency, enabling students to view themselves as future leaders capable of impacting their communities and professions. Chen [19] emphasize that leadership development in students occurs through a combination of intentional programs and experiential opportunities, such as organizational involvement, community projects, and reflective learning processes. Studies have shown that students who engage in leadership roles exhibit higher levels of self-efficacy, civic engagement, and workplace readiness compared to peers with limited leadership exposure. Therefore, student leadership is viewed not merely as an extracurricular activity, but as a strategic developmental pathway aligned with institutional goals for producing competent and socially responsible graduates.

2.2. Experiential Learning

Experiential learning is a learning paradigm grounded in the philosophy that meaningful knowledge emerges from active engagement, reflection, and real-world application. Kolb [20] conceptualized experiential learning as a continuous cycle involving four interconnected stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation. This framework suggests that learning becomes deeper and more transformative when students participate in authentic experiences and actively reflect on them to construct new understanding [21], [22]. In higher education, experiential learning has been applied across various disciplines, demonstrating its effectiveness in linking theory with practice and promoting higher-order thinking skills.

In the context of leadership development, experiential learning plays a critical role in shaping behavioral competencies rather than merely cognitive understanding. Research Syah et al. [18] and Putri [19] indicates that leadership qualities such as decision-making, negotiation, and ethical reasoning develop more effectively through simulated and real leadership tasks rather than lecture-based learning. Experiential methods including simulations, case studies, role-playing, organizational practice, and feedback-based reflection provide students with a safe yet meaningful environment to practice leadership behaviors. Consequently, experiential learning is increasingly adopted in leadership training programs because it cultivates adaptability, confidence, and reflective capability qualities essential for effective leadership in dynamic and unpredictable contexts.

2.3. Campus Organizational Management

Campus organizational management refers to the structured processes and leadership mechanisms that guide student-run organizations in universities. Effective management in this setting involves planning, organizing, controlling, evaluating, and leading organizational activities to ensure sustainable governance and meaningful student participation [25]. Student organizations function as micro-ecosystems where governance, conflict resolution, communication flows, and decision-making frameworks can be observed and practiced. Research shows that well-managed campus organizations significantly contribute to institutional culture, student engagement, and leadership development outcomes [26], [27].

Moreover, campus organizational management reflects the broader institutional mission to create democratic, inclusive, and collaborative learning environments. Prakash [28] and Krisiawan [29] suggest that students who participate in organizational governance develop an understanding of leadership as a systemic and shared process rather than a positional role. They learn to navigate challenges such as budget management, delegation, accountability, and member development skills aligned with real-world organizational leadership. When campuses provide structured mentorship and policies that support student autonomy, campus organizations become strategic platforms for leadership formation and institutional innovation.

2.4. Leadership Training

Leadership training in higher education aims to systematically cultivate leadership competencies through structured learning programs, mentoring, and experiential activities. Effective leadership training programs include a balance of theoretical instruction, skills development, and behavioral application, often utilizing models such as transformational leadership, servant leadership, and situational leadership [30]. A growing body of research demonstrates that leadership training increases students' strategic thinking, emotional intelligence, and decision-making abilities, making them more prepared for professional roles and social responsibility [31], [32].

Additionally, leadership training programs that integrate reflective practices, coaching, and experiential learning demonstrate higher impact compared to traditional didactic approaches. Studies by Siswanto [33] show that participants in leadership programs benefit most when training includes reflection, feedback, and real leadership practice rather than passive instruction. Sustainable leadership development also requires continuous mentoring and follow-up programs to reinforce behavioral changes and support the transfer of learning into real organizational contexts [34], [35]. Therefore, leadership training is increasingly recognized not as a one-time event, but as an ongoing developmental process embedded within educational ecosystems.

3. METHOD

The implementation method of this community engagement program began with a comprehensive needs assessment process conducted through structured observations and in-depth discussions to identify the participants' initial level of understanding related to leadership concepts and organizational management practices. This assessment served as the foundation for determining training relevance, designing appropriate instructional strategies, and aligning learning objectives with the existing leadership capacity of the target group. The participants of this training consisted of first-semester students from the Mathematics Education Study Program at PGRI Yogyakarta University, with a total of 16 participants selected based on organizational involvement and potential leadership roles. The following outlines the sequential stages of the program implementation.

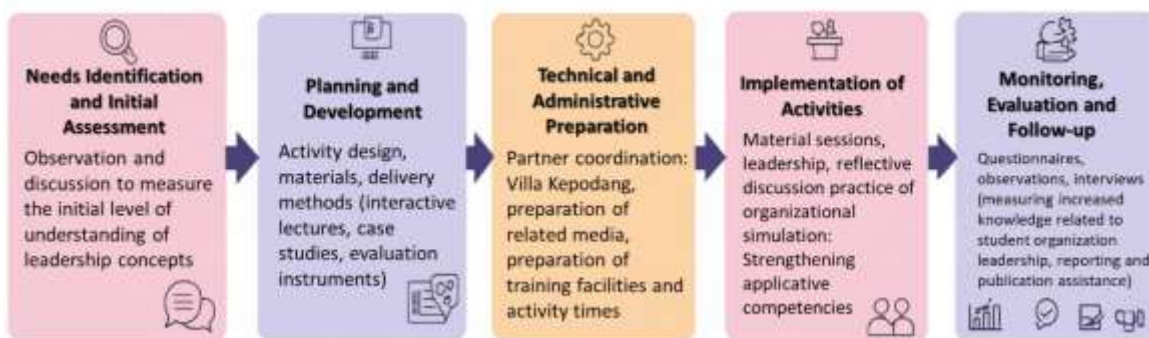


Figure 1. Activity Flow

Based on the assessment results, a training plan was developed that included activity design, material preparation, instructional methods, speaker selection, and the development of evaluation instruments. The next stage involved technical and administrative preparation, which consisted of coordination with partners, module development, selection of learning media, and preparation of training facilities at Villa Kepodang, Kaliurang, Pakem District, Sleman Regency. The training methodology was designed using interactive lectures, simulations, case studies, and group discussions to encourage active participant engagement.

The implementation of the program took place on December 6, 2025, consisting of a series of sessions including material delivery, leadership practice, reflective discussions, and organizational simulations to enhance participants' applied competencies. Following the training activities, monitoring and evaluation were conducted through questionnaires, participatory observations, and interviews to measure improvements in participants' knowledge, attitudes, and skills. Additionally, follow-up actions were carried out in the form of organizational mentoring and the development of an advanced capacity-building program for the student association board. The final stage of the method was the preparation of documentation and publication reports

as a form of dissemination to contribute to academic knowledge and strengthen practical efforts in student leadership development.

4. RESULTS AND DISCUSSION

4.1. Needs Identification and Initial Assessment Stage

This stage revealed that most students possessed a basic understanding of leadership concepts; however, they were not yet able to consistently apply these concepts within real organizational contexts or practical decision-making situations. Through structured observations and preliminary discussion sessions, the participants began to recognize the importance of developing essential leadership competencies, including effective communication, conflict management, decision-making ability, and organizational program planning. These findings served as the primary foundation for designing a relevant and targeted training program, enabling students to develop a clearer understanding of their leadership position, roles, and responsibilities, as well as the urgency of strengthening leadership capacity to improve organizational performance and effectiveness within the campus environment.

4.2. Planning and Development Stage

The results of the planning and development stage indicated that the activity design, learning materials, and delivery methods such as interactive lectures, case-based analysis, simulation activities, and structured evaluation instruments were highly aligned with the identified needs of the students. The preparation and organization of the training materials were carried out based on the initial assessment results, ensuring that the program was able to accommodate varying levels of participant understanding in a gradual, systematic, and comprehensive manner. The following figure presents the cover of the learning material used during the training as part of the instructional documentation.



Figure 2. Cover of Organizational Leadership Material

The material includes an in-depth understanding of the concept of leadership, the key competencies a leader must possess, and practical examples or case studies that illustrate the characteristics of various leadership types within an organizational context. The material is also complemented by reflective discussions and real-life examples of leadership situations to help participants more effectively understand how these concepts are applied in student organizational life and in broader social interactions. Furthermore, the evaluation instruments, in the form of pretests and posttests, are carefully designed based on the following guidelines to ensure the accuracy, relevance, and reliability of the assessment process.

Table 1. Pretest and Posttest Grid

No	Aspect	Question Items
1	Leadership Concepts	1, 2, 3
2	Leadership Management	4, 5, 6
3	Leader Core Competencies	7, 8, 9
4	Types of Leaders	10, 11, 12
5	Leadership Case Studies	13, 14, 15

The blueprint for the pretest and posttest presented in the table demonstrates that the evaluation instrument was systematically designed to measure students' understanding of leadership through five core dimensions. The first dimension, leadership concepts (items 1–3), functions to identify participants' foundational understanding of leadership definitions, principles, and roles. The second dimension, leadership management (items 4–6), assesses students' ability to comprehend processes related to planning, organizing, implementing, and supervising within an organizational leadership context.

The third dimension, core leadership competencies (items 7–9), evaluates the extent to which participants understand essential leadership skills, including communication, decision-making, and responsibility. The fourth dimension, types of leaders (items 10–12), examines students' knowledge of different leadership styles and their respective strengths and weaknesses. Lastly, the fifth dimension focuses on case-based analysis (items 13–15), aiming to assess participants' analytical ability in applying leadership concepts to real-world scenarios. This approach encourages students to be more active and responsive throughout the training sessions, as the learning design directly addresses organizational challenges they encounter within their campus environment.

4.3. Technical and Administrative Preparation Stage

The technical and administrative preparation stage represented a crucial component of the program implementation, as it involved intensive coordination with stakeholders, the development of training media, and logistical and scheduling planning. All coordination processes were carried out systematically to ensure that technical and administrative requirements were fulfilled effectively. This stage included preparing the training agenda, attendance lists, task assignments for the organizing committee, and communication procedures between facilitators and participants. Meticulous planning contributed to the creation of a structured environment prior to the training, ensuring that all stakeholders had a clear understanding of the workflow and their respective roles.

The preparation process demonstrated a positive impact on the training implementation, which proceeded in an orderly, conducive, and efficient manner. The availability of presentation facilities, instructional materials, supporting media, and evaluation tools such as the pretest and posttest significantly enhanced the effectiveness of the learning process throughout the program. Participants were able to follow the material without technical obstacles, enabling them to fully engage in learning and applying the concepts delivered. Therefore, this preparation stage served as a fundamental element in ensuring the quality of program execution and in providing an optimal learning experience for all participants.

4.4. Activity Implementation Stage

During the implementation stage, students demonstrated high enthusiasm through active engagement in material sessions, reflective discussions, and organizational role-play simulations. The following image illustrates the implementation of the training activities, with speakers who are practitioners in organizational leadership.



Figure 3. Implementation of Training

Training based on experiential learning provides participants with the opportunity to practice leadership skills directly, both in the role of a leader and as a team member. As a result of this process, there was a significant improvement in students' strategic thinking abilities, effectiveness in communication, and capability to guide decision-making processes within the context of student organizations. Leadership practice conducted through organizational simulations contributed notably to the strengthening of applied competencies, enabling students to connect theoretical frameworks with real implementation in a practical setting.

Through this learning experience, students demonstrated progress in designing organizational programs, managing meetings, and formulating collaborative strategies across divisions within the organization. In addition, participants' confidence in leading discussions, expressing ideas, and managing team dynamics also increased, particularly after engaging in structured feedback sessions facilitated by trainers and peers. This constructive feedback mechanism played an essential role in refining leadership behaviors and reinforcing professional communication habits.

4.5. Monitoring, Evaluation, and Follow-Up Phase

The monitoring, evaluation, and follow-up phase indicated positive outcomes, as evidenced by improvements in students' leadership knowledge and skills based on questionnaire results, observations, and interviews. Participants also expressed a strong commitment to applying the insights gained from the training to organizational activities within their respective roles. Furthermore, students developed reflective reports as a form of accountability and personal evaluation, demonstrating their understanding of leadership growth and future development goals. A documentation session was conducted at the end of the program, serving as a closing activity and symbolizing the successful completion of the leadership training initiative.



Figure 4. Photo Session with the Speaker

Some participants even began planning the implementation of follow-up programs in their respective organizations by compiling work agendas, forming small teams, and evaluating organizational needs, as well as actively participating in publishing activities through campus media and social media as a form of documentation and dissemination of results, so that this training does not only provide a momentary impact but develops into a continuous learning process that encourages real change and does not stop at just one intervention. The following are the results of the pretest and posttest of training participants based on the prepared grid.

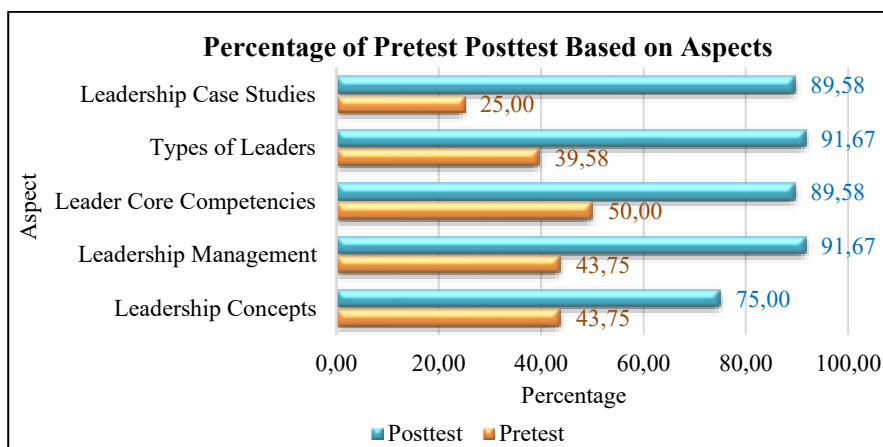


Figure 5. Percentage of Pretest Posttest Scores Based on Aspects

The pretest and posttest percentage diagrams by aspect show a very significant increase in participants' abilities after participating in the leadership training. In the pretest stage, all aspects were still in the 25% to 50% range, indicating that participants' understanding before the training was still limited, especially in the leadership case study aspect, which only reached 25%. After the training, all aspects experienced a sharp increase, with the highest achievement in the leadership management and types of leaders aspect at 91.67%, followed by core leadership competencies and case studies at 89.58%, and leadership concepts at 75%. This score comparison indicates that the training was effective in increasing understanding in both the conceptual and applied domains, with aspects requiring application analysis such as core competencies, types of leaders,

and case studies experiencing the most striking improvement. Overall, these data confirm that the training was able to provide a strong learning impact and strengthen students' leadership competencies comprehensively. Meanwhile, the results of the pretest and posttest for each participant can be seen in the following figure.

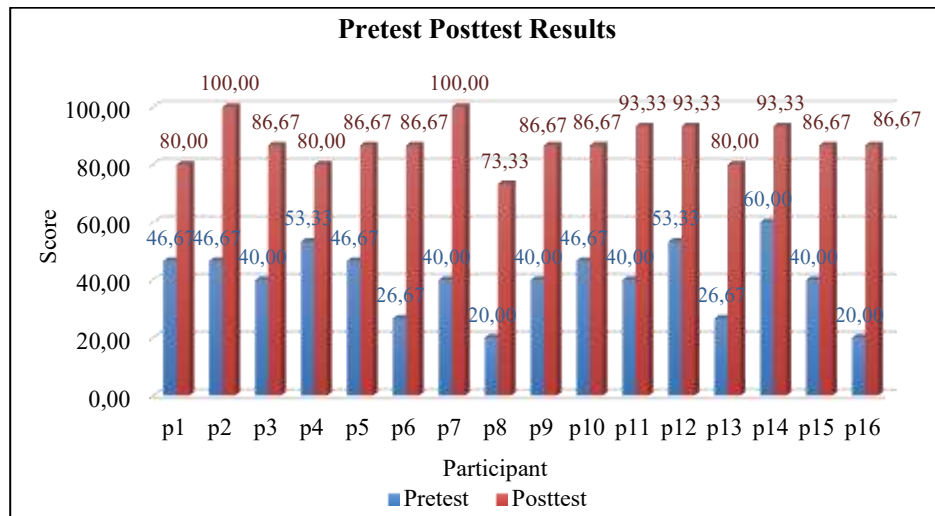


Figure 6. Pretest and Posttest Results for Each Participant

The pretest and posttest diagrams show a significant increase in participants' scores after participating in the leadership training. Almost all participants experienced a significant increase in their scores, as evidenced by their pretest scores, which generally ranged from 20 to 53.33, increasing to 73.33 and reaching 100 on the posttest. Several participants, such as p2, p6, p10, p11, and p14, achieved a maximum score of 100 on the posttest, indicating excellent understanding after participating in the training. Meanwhile, participants with low initial scores, such as p7, p8, and p16, also showed consistent improvement, although they did not reach the highest scores, indicating that the training still had a positive impact despite the participants' varying starting abilities. Overall, this consistent pattern of improvement indicates that the training was effective in improving students' knowledge and understanding of leadership.

4.6. Discussion

The implementation of this leadership training demonstrates that the intervention effectively addressed the real needs of students as identified during the initial assessment stage. The needs analysis revealed that although students possessed foundational knowledge of leadership, they were unable to apply it in practical organizational contexts. This finding aligns with the view that leadership competence is not solely determined by conceptual understanding but is largely shaped by interpersonal ability and practical social experience [36]–[38]. Similarly, it is argued that novice leaders often understand communication and decision-making theories yet struggle to apply them adaptively without experiential practice [39], [40]. The early findings in this program reinforce these theoretical perspectives, as students only began recognizing leadership roles and competencies when provided with reflective discussions and applied contexts during the needs assessment phase.

During the planning and development stage, the process of designing materials and methods based on the initial assessment proved to have a targeted and relevant impact on participants. The training design, which integrated interactive lectures, case studies, reflective activities, and formative evaluation, was effective in enhancing motivation and comprehension among participants. This approach supports the notion that learning becomes meaningful when individuals engage in concrete experiences, reflective observation, abstract conceptualization, and active experimentation [41]–[43]. Furthermore, leadership training programs developed using diagnostic assessment have been shown to significantly improve learning outcomes across both cognitive and affective domains [44]. Thus, this developmental stage served as a critical foundation for the successful implementation of the program.

Furthermore, the technical and administrative preparation phase ensured that the program was carried out systematically, orderly, and within a conducive learning environment. The preparedness of resources,

logistics, and communication management emerged as key supporting factors contributing to program success. This aligns with research indicating that technical readiness is a primary determinant influencing participant engagement and training effectiveness [45], [46]. The structured preparation process enabled participants to remain fully focused on learning rather than navigating logistical difficulties. This was evidenced by participant responses indicating smooth engagement with no significant technical disruptions throughout the training.

In the implementation stage, the use of an experiential learning approach provided participants with opportunities to apply theoretical concepts within simulated organizational situations. This method resulted in substantial improvement in strategic thinking, communication, conflict management, and decision-making abilities. These outcomes align with findings demonstrating that simulation-based leadership training can increase competence significantly compared to traditional lecture approaches [47]–[49]. Additionally, the increase in participants' confidence following facilitator and peer feedback supports the claim that performance-based feedback plays a critical role in strengthening leadership self-efficacy [50], [51].

The evaluation and follow-up phase produced highly positive outcomes, evidenced by significant increases in participants' pretest and posttest scores across all assessment dimensions. This consistent improvement indicates that the training generated holistic learning outcomes, enhancing both theoretical understanding and applied leadership capability. These results align with research demonstrating that leadership development grounded in practice and reflection fosters sustained improvement even beyond program completion [52], [53]. Participants' commitment to applying the training outcomes in organizational activities such as preparing work programs, forming teams, and executing publication strategies demonstrates a successful transfer of learning into real operational practice. Therefore, this program not only contributed to short-term cognitive gains but also fostered the development of long-term leadership behavior, consistent with transformational learning principles.

5. CONCLUSION

The results of the training indicate that the program was effective in enhancing students' understanding and leadership abilities, as demonstrated by the significant increase in pretest–posttest scores and observable improvements in participants' communication, decision-making, conflict management, and organizational program planning skills. Needs-based planning, solid technical preparation, the use of experiential learning methods, and systematic evaluation mechanisms successfully created a comprehensive learning experience that aligned with the challenges faced in student organizations. Based on these findings, it is recommended that similar training be implemented on an ongoing basis, supported by strengthened post-training mentoring, improved context-based case studies, and broader involvement of campus stakeholders to reinforce a sustainable leadership development ecosystem. As a follow-up program, students should be facilitated through regular leadership coaching, advanced leadership camps, the establishment of leadership practice communities, and continuous monitoring of organizational work program implementation to ensure long-term impact and the development of strong, adaptive, and sustainable leadership behaviors.

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