



Paper Type: Original Article

University Social Responsibility through the Plan–Do–Check–Act Framework: A Cross-National Sustainable Development Goals Storytelling Case Study

Chieh-Lan Li¹ , Zuraidah Ali² , Shu-Chuan Chen^{3,*}

¹ Foreign Languages Division, General Education Center, Ming Chi University of Technology, Taiwan; winnieli@mail.mcut.edu.tw.

² Department of Lifelong Learning College of Continuing Education Institute of Energy Policy & Research Universiti Tenaga Nasional Kajang, Malaysia; zue@uniten.edu.my.

³ Department of Business and Management, Ming Chi University of Technology, Taiwan; shuchuan@mail.mcut.edu.tw.

Citation:

Received: 25 October 2025
Revised: 16 December 2025
Accepted: 29 February 2026

Li, C. L., Ali, Z., & Chen, S. C. (2026). Operationalizing university social responsibility through a PDCA Lens: A qualitative case study of a cross-national SDG-based english storytelling project. *Management Analytics and Social Insights*, 3(3), 200-216.

Abstract

This study investigates how University Social Responsibility (USR) can be aligned with the Sustainable Development Goals (SDGs) and cross-national collaboration to translate institutional commitments to social responsibility into community-based educational practice. A cross-national, SDG-oriented English storytelling initiative jointly implemented by Ming Chi University of Technology (MCUT) in Taiwan and Universiti Tenaga Nasional in Malaysia was examined as a single case. The study adopted a retrospective qualitative case-study design, with the Plan–Do–Check–Act (PDCA) cycle applied ex post as a process-oriented analytical framework. Data were drawn from project documentation, workshop materials, storytelling resources, activity records, and outcome statistics. The analysis identified evidence corresponding to the Plan phase, including the establishment of the cross-national partnership, selection of SDG-related themes, and planning of service sites; the Do phase, encompassing participant training, story adaptation, and community-based implementation in Taiwan and Malaysia; and the Check phase, which was reflected primarily in documented outputs such as the number of activities conducted, participant reach, cultural diversity, and breadth of SDG theme coverage. In contrast, documentary evidence related to the Act phase was comparatively limited. The integrated analysis further identified cross-national partnership, pre-service training, and the translation of SDG concepts into accessible storytelling content as key enabling mechanisms. At the same time, community reciprocity, systematic outcome assessment, and the feedback mechanism linking Check to Act emerged as areas requiring further development. Overall, the findings indicate that the PDCA cycle provides a useful process-oriented analytical framework for examining the implementation dynamics of cross-national USR initiatives and for identifying gaps in governance, assessment, and continuous improvement.

Keywords: University social responsibility, Sustainable development goals, PDCA, Cross-national collaboration, Community engagement, English storytelling.

1 | Introduction

1.1 | Research Background

The role of universities has increasingly expanded beyond their traditional teaching and research functions to encompass a broader third mission centered on community engagement, societal contribution, and the

Corresponding Author: shuchuan@mail.mcut.edu.tw

<https://doi.org/10.22105/masi.vi.108>



Licensee System Analytics. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0>).

creation of public value. As universities interact with increasingly diverse stakeholder groups, their governance and accountability structures must also address the expectations and interests arising from external societal relationships [1]. Within this context, University Social Responsibility (USR) has emerged as a framework for understanding how universities can systematically incorporate social responsibility into their institutional missions. Larrán Jorge and Andrades Peña [2] and Ali et al. [3] argue that USR should extend beyond fragmented or philanthropic initiatives and instead be embedded within core university functions, including governance, teaching, research, and societal engagement. Evidence from Southeast Asia similarly indicates that universities are increasingly involved in educational, health-related, and sustainability-oriented social responsibility initiatives, although the degree to which such practices are institutionalized continues to vary considerably across institutions [4]. The Sustainable Development Goals (SDGs) provide a widely recognized framework through which higher education institutions can connect sustainability-oriented education with their broader societal mission. Universities can contribute to the SDGs through curriculum development, teaching, research, and engagement with external stakeholders [5], however, the effective integration of the SDGs into higher education remains constrained by institutional capacity, resource availability, and implementation challenges [6]. Related research on service-learning and real-world learning suggests that sustainability-related knowledge is more effectively translated into educational practice when learners engage with authentic contexts, collaborative tasks, and reflective processes [7], [8]. Storytelling may further support this translation process by transforming abstract or complex sustainability concepts into narratives that are more accessible, contextualized, and meaningful for diverse audiences [9], [10]. At the same time, the internationalization of higher education does not automatically generate societal value when it is primarily oriented toward student mobility, institutional networking, or cross-border academic exchange. Jones et al. [11] introduced the concept of Internationalisation of Higher Education for Society (IHES), emphasizing that internationalization should be more explicitly connected to universities' third mission and broader social responsibilities.

The 2023 MCUT–UNITEN initiative examined in this study is situated at the intersection of USR, the SDGs, intercultural collaboration, and community education. The project evolved from a predominantly local and partially online service model toward a cross-national collaboration between Taiwan and Malaysia. It also shifted from conventional folk-story activities toward SDG-oriented English storytelling implemented in community-based educational settings in both countries. This integration is particularly relevant within the Asian higher education context, where USR initiatives are often required to respond simultaneously to local community needs and broader global agendas associated with sustainability and internationalization. Consequently, the governance of such initiatives cannot be adequately understood through a simple distinction between “local service” and “international exchange.” The case examined here combines cross-national institutional partnership, culturally diverse student participation, the translation of SDG concepts into storytelling content, and community-based service delivery. It therefore provides an appropriate context for examining how global sustainability agendas and local community engagement intersect within contemporary USR practice. Previous research on sustainability-oriented storytelling and service-learning highlights the educational potential of narrative approaches and authentic learning environments. However, the presence of such activities alone does not constitute evidence of specific learning outcomes. Accordingly, this study adopts a deliberately evidence-bounded approach and focuses on implementation processes that can be substantiated through the available documentary record. It therefore avoids retrospectively attributing unmeasured outcomes, such as improvements in intercultural competence, SDG literacy, or English proficiency, to the project in the absence of direct empirical evidence.

1.2 | Research Gap and Problem Statement

Jones et al. [11] observed that internationalization and social responsibility are frequently pursued as parallel rather than integrated agendas. Accordingly, cross-national collaboration should not, in itself, be equated with cross-national USR; the more substantive issue is how international partnerships, culturally diverse student groups, sustainability objectives, and community needs are coordinated within a coherent socially responsive

practice. Although SDG education, service-learning, and sustainability storytelling have each developed as established areas of inquiry, relatively limited attention has been devoted to examining cross-national USR collaboration, SDG content translation, student co-creation, intercultural community engagement, implementation monitoring, and subsequent improvement as interconnected components of a single process. The Plan–Do–Check–Act (PDCA) cycle has been applied in higher education contexts, including quality management and service-learning [12,13], and its cyclical structure provides a useful basis for examining implementation, evaluation, and continuous improvement. However, the present study does not assume that the 2023 MCUT–UNITEN initiative was originally designed according to PDCA principles. Rather, PDCA is employed retrospectively as a process-oriented analytical framework to identify both well-documented implementation mechanisms and areas in which governance, assessment, or continuous improvement remained underdeveloped. Within this study, the implementation process refers to the manner in which the project was reframed, cross-national partnerships and service settings were established, students were prepared, storytelling content was collaboratively adapted, project activities and outputs were documented, and available evidence was subsequently linked to potential improvement. The three research questions therefore examine, respectively, how the project was designed and implemented as USR practice, how its implementation process can be interpreted through the PDCA framework, and which enabling mechanisms and implementation gaps emerged from the case.

1.3 | Research Purpose and Questions

This study aims to investigate how cross-national collaboration, SDG-oriented education, and community engagement are operationalized within USR practice. It further seeks to retrospectively examine the project's planning, implementation, monitoring, and continuous-improvement processes through the PDCA framework. On this basis, the study addresses the following research questions:

RQ1. How was the cross-national SDG-based English storytelling project designed and implemented as a form of USR?

RQ2. How does the PDCA framework explain the planning, implementation, monitoring, and adaptive improvement processes of the cross-national USR project?

RQ3. What key enabling mechanisms and implementation gaps emerged throughout the cross-national USR process?

1.4 | Research Contributions

This study makes three principal contributions. First, by applying the PDCA cycle retrospectively as a process-oriented analytical framework, it extends the USR literature beyond conventional emphasis on activities and outputs to examine the organizational processes through which initiatives are planned, implemented, monitored, and improved. Second, drawing on the Taiwan–Malaysia case, the study demonstrates how IHES can be operationalized through cross-national institutional partnerships, culturally diverse student participation, SDG-oriented storytelling, and community-based service activities. Third, the study conceptualizes SDG-based storytelling as a translation mechanism through which abstract sustainability principles can be converted into accessible educational content for community engagement, while also identifying governance challenges related to community reciprocity, outcome assessment, and the feedback mechanism linking the Check and Act stages. At the same time, the available evidence does not support classifying the case as a formal service-learning course, as the initiative did not clearly incorporate structured coursework, academic credit, and systematic reflective components.

2 | Literature Review and Analytical Framework

2.1 | University Social Responsibility and Community Engagement

USR is grounded in universities' responsibilities toward external stakeholders and the creation of public value. Jongbloed et al. [1] and Benneworth and Jongbloed [14] argue that the third mission of universities should not be confined to commercialization and technology transfer, but should also encompass societal interaction, knowledge co-creation, and engagement with diverse stakeholders. Nejati et al. [15] further demonstrate that social responsibility has become embedded in universities' public communication concerning governance, environmental practices, and community engagement. Larrán Jorge and Andrades Peña [2] and Ali et al. [3] subsequently conceptualize USR as an institutional responsibility that should be integrated across governance, teaching, research, and community engagement.

Community engagement is not synonymous with USR; rather, it represents one of its key implementation mechanisms. Mtawa et al. [16] emphasize reciprocity, collaboration, and knowledge exchange, suggesting that meaningful engagement should extend beyond one-way service provision from universities to communities. Latif [17] likewise positions community engagement within a multidimensional conception of USR, while Godonoga and Sporn [18] show that USR has evolved from a primarily normative obligation toward greater strategic integration and demonstrable social impact. Accordingly, this study conceptualizes USR as an institutional and practical process through which universities mobilize their educational, knowledge-based, and organizational capacities to respond to societal needs, with reciprocity, organizational integration, and traceable outcomes serving as important analytical dimensions.

Taken together, the USR literature provides three key criteria for the present study. First, social responsibility should be integrated with the core functions of universities. Second, community engagement should be assessed in terms of reciprocity and knowledge exchange. Third, outcomes should not be evaluated solely on the basis of activity volume. Accordingly, this study examines not only whether community-based service activities were implemented, but also whether documentary evidence exists regarding community needs, co-design, feedback mechanisms, and subsequent institutionalization.

2.2 | SDGs, Sustainability Education, and Community-Based Learning

Education for sustainable development has increasingly shifted from knowledge transmission toward the development of competencies and action. Sustainability learning involves both cognitive and non-cognitive dimensions [19], while Wiek et al. [20] identify five key competencies for sustainability: systems-thinking, anticipatory, normative, strategic, and interpersonal competencies. Real-world learning can connect theoretical knowledge with authentic sustainability challenges; however, participation in real-world settings alone does not guarantee competency development, which also depends on appropriate task design, collaboration, and curricular integration [21].

Service-learning provides an important conceptual reference for linking learning with societal practice. Barth et al. [7] emphasize the integration of service, learning, and reflection, whereas Lozano et al. [22], [23] note that sustainability initiatives in higher education often remain fragmented and that pedagogical approaches should be aligned with different sustainability competencies. Molderez and Fonseca [8] further show that real-world experiences and service-learning have the potential to foster sustainability competencies; however, their findings are primarily based on students' self-reported perceptions and therefore cannot be used to infer competency gains in cases where such outcomes were not directly assessed. Leal Filho et al. [5] further demonstrate that the SDGs can connect university teaching, student engagement, and the third mission. Accordingly, this study treats the SDGs as a content and value framework and draws on the real-world learning and service-learning literature to understand how sustainability knowledge is translated into community-based contexts. English storytelling is therefore conceptualized as an educational medium for translating SDG-related content rather than as a proxy for learning outcomes.

The primary function of this literature in the present study is to distinguish learning opportunities from learning outcomes. Training, story adaptation, and community-based service can be understood as implementation conditions that create opportunities for sustainability education and real-world learning. However, in the absence of direct assessment, this study does not claim that participants' sustainability competencies, SDG literacy, or other learning outcomes improved as a result of these activities.

2.3 | Internationalization and Cross-Cultural USR

Knight [24] defines internationalization as the continuing process of integrating an international, intercultural, or global dimension into the purposes, functions, and delivery of higher education. Altbach and Knight [25] further note that internationalization is driven by multiple motivations, including knowledge development, cultural exchange, academic collaboration, and economic interests. Accordingly, the mere presence of a cross-national dimension does not in itself demonstrate educational or societal value. Deardorff [26] further distinguishes between the outputs of internationalization and outcomes such as intercultural competence, cautioning that participant diversity in terms of nationality should not be equated with improved intercultural competence.

Cross-cultural interaction must therefore be intentionally designed. Leask [27] argues that simply bringing domestic and international students together does not automatically generate meaningful intercultural interaction, while Leask and Bridge [28] emphasize that international and intercultural dimensions should be integrated into curricula and learning arrangements. Soria and Troisi [29] show that participation in internationally oriented coursework, interaction with international students, and international co-curricular activities is associated with students' self-reported global and intercultural competencies; however, such associations should not be interpreted as causal evidence.

De Wit and Altbach [30] further argue that internationalization should move beyond mobility and competition toward greater attention to quality, outcomes, and societal contribution. Jones et al. [11], through the concept of IHES, establish an even more direct connection between internationalization and USR. On this basis, the present study conceptualizes cross-national USR as a form of social responsibility practice in which international and intercultural dimensions are intentionally embedded and oriented toward community and public benefit.

Accordingly, this study treats multinational participation as a condition for intercultural interaction rather than an outcome in itself. Joint training and collaborative story adaptation are interpreted as structured mechanisms for facilitating intercultural interaction, while the IHES perspective is used to examine whether cross-national collaboration extends beyond international exchange to engage communities and contribute to broader public value. Internationalization therefore functions in this study as an implementation context for USR, rather than merely as a label for cross-border activities.

2.4 | PDCA as an Analytical Framework for USR Implementation

The PDCA cycle links goal setting, implementation, evaluation, and improvement within a continuous process. PDCA has been applied to quality management in higher education [12], while Sangpikul [13] integrated PDCA with academic service-learning to demonstrate how the cycle can be used to organize service activities and subsequent improvement. The value of PDCA, however, does not lie merely in the formal presence of four labeled stages, but in whether information generated during Check is effectively fed back into Act. Research on the closely related Plan–Do–Study–Act (PDSA) approach likewise emphasizes the importance of iteration, data, learning, and feedback [31], [32]. Without such a feedback loop, improvement cycles risk becoming procedural rather than genuinely developmental.

Accordingly, this study positions PDCA as a retrospective, process-oriented analytical framework (see *Table 1*), rather than as the original intervention model of the case project. Plan examines problem identification, objectives, partnerships, SDG themes, and service settings; Do focuses on training, story adaptation, cross-national collaboration, and community-based service; Check examines verifiable records concerning the

number of activities, participant reach, cultural diversity, and SDG theme coverage; and Act assesses whether documented monitoring results were subsequently translated into adjustments, institutional learning, or further improvement. The analysis does not assume that all four PDCA dimensions were fully developed. Rather, the absence of verifiable documentary evidence corresponding to Act is itself treated as an analytical finding.

Table 1. PDCA analytical framework used in this study.

Dimension	Definition
Plan	Examines problem identification, objectives, cross-national partnerships, SDG themes, and service settings.
Do	Analyzes training, story adaptation, cross-national collaboration, and community-based service activities.
Check	Examines verifiable records of the number of activities, participant reach, cultural diversity, and SDG theme coverage.
Act	Examines whether monitoring results were translated into subsequent adjustments, institutional learning, or further improvement.

In this study, the use of PDCA emphasizes analysis rather than mere classification. Simply assigning existing events to Plan, Do, Check, and Act does not demonstrate that a project has achieved continuous improvement. What requires closer examination is whether traceable information flows exist across these dimensions: whether the directions established in Plan were translated into actions during Do, whether Do generated records that could be used for Check, and whether the results of Check subsequently informed adjustments within Act. Seyfried et al. [33], in their study of quality management in higher education, similarly indicate that continuous improvement depends on institutionalized processes rather than one-off quality narratives.

Accordingly, this study does not seek to demonstrate a complete four-stage PDCA cycle. Rather, insufficient evidence within any dimension, particularly the absence of formal records of reflection, improvement, or follow-up corresponding to Act, is itself treated as evidence of an implementation and governance gap. This approach is consistent with the evidentiary boundaries of a retrospective case study and avoids incorrectly attributing adjustments derived from earlier project experience to Act following the Check dimension of the 2023 case.

2.5 | Conceptual Framework

The conceptual framework developed in this study integrates three complementary theoretical foundations. First, the literature on USR and community engagement establishes the social responsibility, stakeholder engagement, and reciprocity dimensions of university–community interaction.

Second, the SDGs and community-based learning provide the basis for understanding how sustainability-related knowledge can be translated into context-specific educational practices and community-oriented activities.

Third, the literature on internationalization and IHES explains how cross-national academic collaboration can be aligned with broader societal value and public benefit. Building on these foundations, the PDCA framework is applied retrospectively as a process-oriented analytical lens to examine how cross-national USR initiatives are formed, implemented, monitored, and refined over time.

The analysis subsequently distinguishes between two categories of findings: enabling mechanisms that support effective implementation and implementation-and governance-related gaps that constrain continuous improvement. The resulting conceptual framework is illustrated in *Fig. 1*.

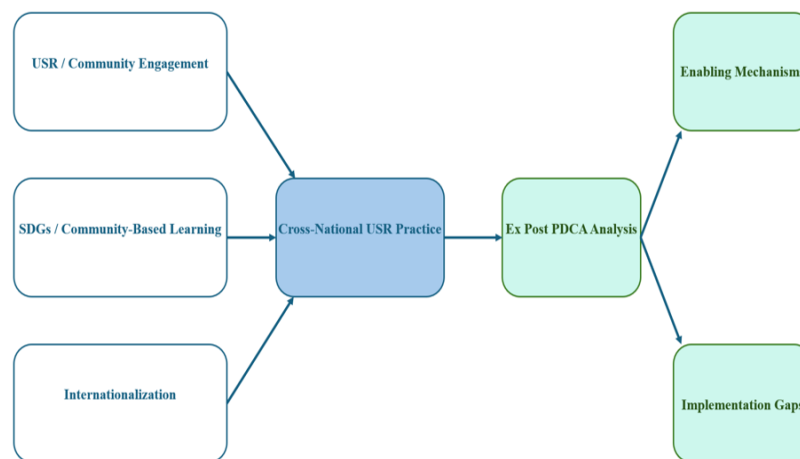


Fig. 1. Conceptual framework of the study.

Within the framework presented in *Fig. 1*, the three theoretical foundations are not conceptualized as independent or competing explanatory variables; rather, they operate as complementary analytical lenses through which the same USR practice can be interpreted. USR provides the basis for understanding institutional social responsibility, stakeholder engagement, and reciprocity; the SDGs and community-based learning explain how sustainability-related knowledge is translated into educational and community-oriented action; and internationalization situates the initiative within a cross-national and intercultural context. The PDCA framework subsequently organizes these dimensions within the temporal logic of implementation, enabling a retrospective examination of how the project was planned, executed, monitored, and potentially refined over time.

Accordingly, the analysis does not reduce project performance to a binary assessment of “success” or “failure.” Instead, the quality of implementation and governance is examined through the identification of enabling mechanisms and implementation gaps. This process-oriented approach provides a more nuanced and evidence-based interpretation of cross-national USR practice by highlighting both the factors that supported implementation and the areas in which governance, assessment, reciprocity, or continuous-improvement mechanisms remained underdeveloped.

3 | Research Methodology

3.1 | Research Design

This study adopts a retrospective qualitative single-case study design to examine how a cross-national USR project was formed and implemented within its real-world context. Case study research is particularly appropriate for investigating phenomena that are closely intertwined with organizational, social, and institutional contexts and for developing contextualized understanding through multiple sources of evidence [34], [35].

The case is bounded to the 2023 MCUT–UNITEN cross-national SDG-based English storytelling project. PDCA is employed solely as an ex post analytical lens after project completion and is not treated as an intervention variable responsible for educational outcomes. The positioning of the research design is summarized in *Table 2*.

Table 2. Positioning of the research design.

Item	Study Design
Research approach	Retrospective qualitative single-case study
Case boundary	The 2023 MCUT–UNITEN cross-national SDG-based English storytelling USR project
Implementation settings	Elementary schools in Taiwan, public primary schools in Malaysia, and public libraries in Taiwan
Analytical framework	Retrospective process-oriented analysis using the PDCA framework
Research purpose	To understand the implementation process, enabling mechanisms, and governance gaps
Inference	Analytical interpretation rather than causal or statistical inference

The adoption of a single-case design is justified by the study's focus on an analytically bounded cross-national USR initiative with clearly defined temporal, organizational, and activity-related boundaries, rather than on estimating average effects across multiple projects. The 2023 case captures the full implementation trajectory, including initial planning, cross-national student preparation, adaptation of storytelling materials, community-based service activities conducted in Taiwan and Malaysia, and the documentation of project outputs. These features provide a sufficiently rich and coherent body of process evidence to support an in-depth, process-oriented analysis. Accordingly, the purpose of the case study is to generate analytical insight into the mechanisms, implementation dynamics, and governance features of cross-national USR practice, rather than to pursue statistical generalization.

3.2 | Case Context

The project was primarily aligned with SDG 4 (Quality Education), SDG 10 (Reduced Inequalities), and SDG 17 (Partnerships for the Goals). Participants included local and international students from Universiti Tenaga Nasional (UNITEN), together with students from Ming Chi University of Technology (MCUT) representing Taiwan, India, Indonesia, Thailand, Vietnam, and Pakistan. Community engagement activities were implemented across multiple educational and public-service settings, including three elementary schools in Taishan District, New Taipei City; three public primary schools in the Kuala Lumpur area of Malaysia; and five branches of the New Taipei City Public Library.

The project was implemented in several sequential stages throughout 2023. Recruitment and initial planning were conducted from March to April. From May to June, the initiative included cross-national exchange activities, a three-day pre-service training workshop, and English storytelling activities conducted at elementary schools in Taiwan. Community-based service activities were subsequently extended to primary schools in Malaysia in August, followed by additional storytelling activities at public libraries in New Taipei City between September and November. The three-day workshop provided participants with foundational knowledge of the 17 SDGs, training in English storytelling techniques, and guidance on adapting narrative materials to incorporate SDG-related themes and educational messages.

3.3 | Data Sources

All data analyzed in this study were derived from pre-existing documents and records generated during implementation of the 2023 project (see *Table 3*). The documentary corpus comprised project plans and implementation timelines, workshop materials, participant and service-site records, storytelling materials and their associated SDG themes, activity records, and project-level output statistics. To strengthen the credibility of the retrospective analysis, multiple forms of evidence were cross-checked to assess the consistency among stated project objectives, documented implementation activities, and reported outputs.

The available dataset did not include independent participant reflection records, formal documentation of improvement meetings, or long-term follow-up materials. Consequently, evidence corresponding to the Act phase of the PDCA cycle was evaluated strictly on the basis of documentation available within the defined case boundary. Importantly, the absence or insufficiency of documentary evidence was not interpreted as evidence that the corresponding actions did not occur; rather, it was treated as a limitation in the verifiability of those actions within the available record.

Table 3. Data sources and primary analytical uses.

Data Type	Main Content	Analytical Use
Planning materials	Problem identification, project objectives, SDG alignment, timeline, and service settings	Plan
Workshop and storytelling materials	SDGs, storytelling techniques, story adaptation, and thematic content	Plan, Do, Check
Participant and service-site records	Nationality/ethnic background, partner schools, and service locations	Plan, Do
Activity and output records	Service activities, number of sessions, participant reach, and scope of service	Do, Check

Although all data sources comprised pre-existing project documents, each source type served a distinct analytical function. Planning materials documented the project's initial problem framing, objectives, and intended implementation structure; workshop and storytelling materials captured the development of educational content and participant preparation; activity records provided evidence of the implementation of planned community-based service activities; and project output statistics documented the scale of participation, service reach, and other observable outputs. Triangulating these documentary sources enabled the analysis to assess consistency across planning, implementation, and reported outcomes, thereby reducing the risk of bias associated with reliance on a single documentary account. Nevertheless, the evidentiary scope of documentary data remains inherently limited, as such materials cannot substitute for participant interviews, reflective accounts, or longitudinal follow-up in assessing lived experiences, perceived impacts, and longer-term outcomes.

3.4 | Data Analysis

This study employed directed qualitative content analysis, whereby theoretically informed concepts were used to establish an initial coding framework and were subsequently refined through data-driven classification and interpretation [36]. The analytical procedure comprised four stages: 1) organizing and repeatedly reviewing the documentary materials to establish familiarity with the dataset, 2) conducting first-cycle coding using the four PDCA categories, PDCA, 3) identifying secondary themes that emerged across multiple data sources, and 4) constructing an analytical matrix to compare convergent, complementary, and absent evidence across the documentary corpus [37]. Throughout the analysis, coding and interpretation were constrained by the evidentiary boundaries of the available data. Specifically, the study adhered to the principle that analytical claims were made only where documentary evidence was available and sufficiently supportive (see *Table 4*). Accordingly, theoretically relevant dimensions for which the evidence remained insufficient, such as community co-design, reciprocal feedback mechanisms, and subsequent improvement actions, were not inferred beyond the data. Instead, these dimensions were retained and reported as implementation and governance gaps, thereby preserving a clear distinction between documented practice and analytically plausible but unverified processes.

Table 4. Operational definitions and coding focus of the PDCA framework.

Dimension	Operational Definition	Main Coding Focus
Plan	Project formation and pre-implementation planning	Problem identification, objectives, cross-national collaboration, SDG themes, and service settings
Do	Actual project implementation	Training, story adaptation, cross-national collaboration, and community-based service

Check	Review of implementation and documented outputs	Number of activities, participant reach, scope of service, cultural diversity, and SDG theme coverage
Act	Improvement based on monitoring and review results	Documentary evidence of adjustments, institutionalization, or subsequent actions

Directed content analysis provides the advantage of a theory-informed analytical structure, but it may also constrain interpretation by privileging predefined categories. To mitigate this limitation, the present study employed the PDCA cycle as the initial coding framework while preserving analytically relevant evidence that could not be adequately captured within its four dimensions. Issues such as community co-design, reciprocal feedback, and outcome assessment were therefore not forcibly assigned to Plan, Do, Check, or Act. Instead, they were examined separately in the integrated analysis as implementation and governance gaps. This approach reduced the risk of theoretical overfitting and maintained a clear distinction between empirically documented processes and broader conceptual expectations derived from the analytical framework.

3.5 | Research Trustworthiness

Research quality was assessed using the four established criteria of credibility, transferability, dependability, and confirmability [38], [39]. Credibility was strengthened through systematic cross-checking across multiple documentary sources, including planning documents, workshop materials, storytelling materials, activity records, and project output records. Transferability was supported by clearly specifying the case boundaries, participant groups, implementation period, and service settings, thereby enabling readers to judge the relevance of the findings to comparable USR contexts. Dependability was addressed through the consistent application of predefined PDCA coding criteria and the use of an analytical matrix to ensure procedural transparency and traceability. Confirmability was reinforced by requiring all analytical claims to be traceable to the underlying documentary evidence and by avoiding speculative interpretation where the available records were incomplete. In addition, explicit links between data sources, coding decisions, and analytical interpretations were maintained to provide an auditable analytical trail [40]. Member checking and inter-rater reliability procedures were not employed because the study relied primarily on pre-existing project documents and records rather than newly generated interview or observational data. Accordingly, the trustworthiness strategy emphasized documentary source triangulation, clearly defined analytical criteria, and transparency throughout the coding and interpretation process. Although these procedures cannot fully overcome the inherent limitations of documentary evidence, they strengthen the methodological rigor of the study by enabling a clear distinction between findings directly supported by the documented record and higher-level interpretations informed by the theoretical framework.

4 | Findings and Discussion

4.1 | Plan: Reframing Local USR as Cross-National SDG Engagement

The retrospective analysis identified two major developments within the evidence corresponding to the Plan phase. First, following two years in which project activities had been constrained by the COVID-19 pandemic and were largely limited to nearby communities and partially online forms of engagement, the 2023 initiative evolved toward a cross-national model jointly implemented by MCUT and Universiti Tenaga Nasional (UNITEN). Second, the thematic orientation of the project shifted from conventional storytelling based primarily on narratives from international students’ home countries toward SDG-oriented English storytelling, with SDG 4 (Quality Education), SDG 10 (reduced inequalities), and SDG 17 (partnerships for the goals) serving as the principal project-level priorities. This reframing integrated international collaboration, sustainability education, and community engagement within a single USR initiative and is consistent with the broader notion of internationalization for society articulated by Jones et al. [11]. Importantly, the Plan dimension is applied here retrospectively for analytical purposes and does not imply that the original project was explicitly designed according to the PDCA cycle. From the perspectives of USR and IHES, the significance of this reframing lies in the reorientation of internationalization from mobility- or exchange-

centered activities toward socially responsive engagement. Cross-national collaboration was positioned not merely as an opportunity for intercultural exchange, but as a mechanism for linking international participation with community education and SDG-oriented action. This strategic orientation subsequently provided the foundation for the structured cross-national student tasks, pre-service preparation, and community-based service activities implemented in Taiwan and Malaysia within the evidence corresponding to the Do phase.

4.2 | Do: Co-Creation, Training, and Cross-National Community Practice

Evidence corresponding to the Do phase primarily comprised the three-day pre-service workshop, collaborative story adaptation, and the implementation of community-based service activities across multiple cross-national settings. The workshop introduced participants to foundational SDG concepts, English storytelling techniques, and methods for adapting narrative content to incorporate SDG-related themes. These activities indicate that co-creation occurred principally during the preparation of educational materials, particularly through collaboration among cross-national student teams and the instructional team. The project subsequently implemented service activities in public elementary schools in Taiwan, public primary schools in Malaysia, and public libraries in Taiwan. This implementation pattern is consistent with the emphasis on authentic contexts, collaborative participation, and applied learning found in the real-world learning and service-learning literature [7], [8]. However, the available evidence does not support classifying the initiative as a formal service-learning course. In particular, the documentary record does not demonstrate the presence of structured academic coursework, credit-bearing requirements, or systematic reflective components. Moreover, evidence of community reciprocity remained limited because the available documents did not sufficiently demonstrate the involvement of schools, children, or community partners in co-design processes, needs identification, or systematic feedback mechanisms. The Do-phase evidence further indicates that students from different national and cultural backgrounds were not placed directly into community service settings without preparation. Rather, joint training and collaborative content development were used to establish a shared foundation for subsequent cross-cultural engagement. This structured preparation is consistent with Leask's [27] emphasis on the importance of intentionally designed intercultural interaction. Nevertheless, if co-creation is interpreted at the level of university–community partnership rather than only among student participants and instructors, stronger evidence would be required to demonstrate that community stakeholders actively contributed to defining needs, shaping activity design, or refining implementation. The available documentation does not provide sufficient support for such a conclusion.

4.3 | Check: Monitoring Reach, Diversity, and SDG Integration

The documentary evidence corresponding to Check consisted primarily of process and output records. In June 2023, five activities were conducted at three elementary schools in Taiwan, involving approximately 130 children. In August, five activities were conducted at three public primary schools in Malaysia, reaching nearly 200 children. From September to November, ten activities were held across five branches of the New Taipei City Public Library, involving approximately 50 parent–child groups or children. Because the unit of measurement for the third category differed from those of the first two, these figures were not aggregated into a single total. Participating students represented multiple national backgrounds, including Taiwan, India, Indonesia, Thailand, Vietnam, and Pakistan, while the Malaysian team also included Malay, Chinese, and Indian ethnic groups. Story content addressed SDG 1, SDG 2, SDG 5, SDG 7, SDG 12, SDG 14, SDG 15, and SDG 16. These story-level themes were analytically distinguished from SDG 4, SDG 10, and SDG 17, which represented the broader project-level goals.

The available evidence confirms the scope of activity reach, participant diversity, and SDG theme coverage. However, these records do not provide a sufficient basis for determining whether participants' intercultural competence, English proficiency, or SDG-related knowledge improved. Deardorff [26] similarly distinguishes between the outputs of internationalization and outcomes such as intercultural competence. Accordingly, the Check dimension in this case functioned primarily as a mechanism for implementation monitoring, while assessment of learning outcomes and long-term impacts remained limited.

Importantly, cultural diversity in this study refers only to the composition of participants and is not treated as evidence of intercultural learning outcomes. Likewise, SDG coverage indicates the extent to which storytelling content was connected to particular SDG themes and project objectives, rather than demonstrating children's understanding or subsequent behavioral change. Maintaining these distinctions ensures that the interpretation of Check remains within the evidentiary boundaries supported by the original records.

4.4 | Act: Limited Documentary Evidence and the Incomplete Feedback Loop

Documentary evidence corresponding to the Act phase was the most limited among the four PDCA dimensions. The 2023 initiative evolved from a predominantly local service model toward a cross-national collaborative format and from conventional storytelling toward SDG-oriented storytelling. Although these changes suggest that lessons from earlier project experience informed the redesign of the 2023 initiative, they are more appropriately interpreted as antecedent learning incorporated into the Plan phase rather than as Act arising from the 2023 Check process. Within the defined case boundary, no formal documentation was available regarding post-activity reflection, improvement meetings, subsequent project modifications, or long-term follow-up. Accordingly, the analysis can conclude only that verifiable documentary evidence associated with the Act phase was limited; it cannot infer that improvement activities were absent in practice. This interpretation is consistent with the PDCA/PDSA literature, which emphasizes the importance of closing the feedback loop between Check and Act to support continuous improvement [31], [32]. The principal finding concerning the Act phase, therefore, is not that no improvement occurred, but that such improvement could not be sufficiently verified from the available documentary record. Informal adjustments may have taken place within the project team, but in the absence of systematic documentation, such adaptations are less likely to be captured, institutionalized, and transferred as cumulative organizational knowledge. This evidentiary limitation therefore represents an important governance challenge, particularly in relation to organizational learning, accountability, and the sustainability of continuous-improvement processes in cross-national USR initiatives.

4.5 | Integrated Discussion

The integrated analysis identified three principal enabling mechanisms underlying the development of the cross-national USR initiative. First, the establishment of a cross-national institutional partnership and the reframing of the project around the SDGs enabled a previously locally oriented service initiative to evolve into a broader form of cross-national USR. Second, pre-service training and collaborative story adaptation served as a translation mechanism through which abstract sustainability concepts were transformed into accessible, community-oriented educational content. Third, the participation of culturally diverse student groups and the implementation of service activities across multiple sites in Taiwan and Malaysia connected internationalization with community engagement in practice. Collectively, these mechanisms provide a concrete illustration of the integration of internationalization and social responsibility advocated by the concept of Internationalisation of IHES [11]. At the same time, the analysis revealed three major implementation and governance gaps. First, the available documentary evidence was insufficient to verify systematic processes of joint community-needs identification, community co-design, and reciprocal feedback, indicating that the reciprocity dimension of university–community engagement remained only partially documented. Second, evidence corresponding to the Check phase focused predominantly on activity counts, participant reach, service locations, cultural diversity, and SDG theme coverage, whereas systematic assessment of educational, community, or longer-term outcomes remained limited. Third, traceable evidence demonstrating whether findings from the Check phase were subsequently translated into Act through formalized adjustments, institutional learning, or modifications for future project cycles was insufficient. Accordingly, the analytical value of PDCA in this study does not reside in demonstrating that the case formally conformed to the PDCA cycle. Rather, its value lies in providing a structured basis for distinguishing between well-documented implementation mechanisms and areas in which evidence related to reciprocity, outcome

assessment, governance, and continuous improvement remained incomplete. *Table 5* summarizes the integrated PDCA analysis of the 2023 cross-national USR project.

Table 5. Integrated PDCA analysis of the 2023 cross-national USR project.

Dimension	Key Findings	Analytical Assessment
Plan	Shift from locally oriented USR to cross-national collaboration; transition from traditional stories to SDG-oriented storytelling	Clear documentary evidence of planning
Do	Three-day training, story adaptation, and multi-site service activities in Taiwan and Malaysia	Clear documentary evidence of implementation; limited evidence of community co-creation
Check	Records of activity frequency, participant reach, cultural diversity, and SDG theme coverage	Monitoring focused primarily on process and outputs
Act	Lack of formal post-activity reflection, improvement, and long-term follow-up records	Limited documentary evidence corresponding to Act; the feedback loop was not sufficiently documented

Taken together, the three enabling mechanisms and three identified gaps indicate that the strongest aspect of the case lies in its capacity to organize cross-national partnerships, SDG-related content, and community service into implementable activities. Its weaker aspects concern how service recipients participated in activity design, how assessment progressed from outputs to outcomes, and how post-activity experience was translated into institutionalized feedback and subsequent improvement. In other words, the case demonstrated relatively clear implementation capacity for cross-national USR, whereas the documentation of reciprocity governance, outcome governance, and organizational learning governance remained comparatively underdeveloped.

5 | Conclusion and Implications

5.1 | Conclusion

This study examined the 2023 MCUT–UNITEN cross-national SDG-based English storytelling project as a single case using a retrospective qualitative design, with PDCA applied *ex post* as a process-oriented analytical framework. The findings indicate that the project evolved from locally oriented USR toward cross-national collaboration and SDG-oriented educational engagement. Evidence corresponding to Do included pre-service training, collaborative story adaptation, and community-based activities in Taiwan and Malaysia, while Check was represented mainly by process- and output-level records concerning activity reach, participant diversity, service settings, and SDG theme coverage. By contrast, documentary evidence corresponding to Act was comparatively limited.

Overall, the case reveals a clear implementation pathway through which cross-national partnership, structured preparation, and SDG-based storytelling supported the translation of institutional social responsibility into community-oriented educational practice. At the same time, the analysis identified persistent gaps in community reciprocity, outcome assessment, and the feedback linkage between Check and Act. These findings suggest that the long-term effectiveness of cross-national USR depends not only on successful activity implementation, but also on the extent to which community feedback, outcome evidence, and documented improvement are integrated into subsequent project cycles.

5.2 | Theoretical Contributions

This study makes three main theoretical contributions. First, by applying PDCA as a process-oriented analytical framework, it extends USR research beyond mission statements and activity-based descriptions

toward the examination of implementation, monitoring, and continuous improvement. Second, it integrates USR, the SDGs, intercultural internationalization, and community-based educational practice within a single analytical context, illustrating how IHES can be operationalized through cross-national collaboration and community engagement. Third, it demonstrates that limited evidence corresponding to Act is analytically meaningful because it reveals where implementation has not yet been fully translated into institutional learning and continuous improvement.

These contributions are interrelated. When USR is conceptualized as an implementation process, internationalization and the SDGs become not merely descriptive features of individual activities, but mechanisms through which universities may generate public value. From this perspective, weak or incomplete evidence corresponding to Act should not be viewed solely as a documentary limitation; it may also indicate the degree to which learning, adaptation, and improvement have been institutionalized within the organization.

5.3 | Practical Implications

For practice, cross-national USR initiatives should integrate societal needs, SDG priorities, international partnerships, and service settings from the initial planning stage. Community stakeholders should be involved more systematically in identifying needs, shaping activities, and providing feedback. Likewise, cross-cultural collaboration should be supported through structured pre-service training, clearly defined roles, and shared tasks rather than assuming that multinational participation alone constitutes meaningful internationalization.

Project evaluation should also move beyond activity-level indicators such as participant numbers, service reach, and completed materials. Stronger outcome management requires evidence of student learning, community responses, intercultural development, and documented improvement actions. From a managerial perspective, this requires a clear distinction between activity completion and organizational learning. If these evidence requirements are specified during Plan, the subsequent connection between Check and Act can become more systematic, traceable, and useful for future project development.

5.4 | Limitations

This study has several limitations. First, as a single-case study, the findings are intended for analytical rather than statistical generalization. Second, the retrospective design relied on pre-existing documentary evidence and did not include interviews with students, instructors, community partners, or participating children. Third, the available records did not contain formal pre- and post-assessments, longitudinal follow-up, or systematic measures of sustainability, intercultural, or educational outcomes. Consequently, the study cannot determine the extent to which specific competencies, attitudes, or behavioral changes occurred.

In addition, the available documentation was insufficient to fully verify community co-design, reciprocal feedback, and post-2023 improvement processes. Because most records were generated by the project implementation team, the dataset may also underrepresent negative experiences, unmet objectives, or informal adjustments made during implementation. Although cross-checking across multiple documentary sources was used to reduce this risk, documentary bias cannot be fully eliminated. The findings should therefore be interpreted within the boundaries of the available evidence rather than as claims that undocumented practices did not occur.

5.5 | Future Research

Future research could extend this work through multiple-case and cross-national comparative designs to examine variation in PDCA-related implementation across different USR initiatives. Longitudinal studies incorporating interviews, reflection records, community feedback, and follow-up data from students, faculty members, partner institutions, and service recipients would provide a more comprehensive understanding of reciprocity, learning, and organizational adaptation. Future studies could also develop evaluation frameworks that distinguish clearly among outputs, outcomes, and impacts, linking student learning, SDG understanding, community benefit, partnership development, and subsequent improvement.

Further research should also consider designing data-collection and evaluation mechanisms before project implementation. This would allow direct comparison between PDCA used retrospectively as an analytical framework and PDCA used prospectively as a governance framework. Such research could examine whether formal mechanisms for community co-creation, outcome assessment, and documented improvement contribute to the institutionalization, sustainability, and long-term effectiveness of cross-national USR practice.

Funding

This research received no external funding.

Conflict of Interest

The authors declare no conflict of interest.

Data Availability Statement

The data are available from the corresponding author upon reasonable request, subject to institutional and confidentiality considerations.

Ethical Statement

This study was based on retrospective analysis of pre-existing project documents and records and did not involve experimental intervention with human participants. No personally identifiable information was used in the analysis.

Author Contributions

All authors contributed to the conception and design of the study, analysis and interpretation of the data, and preparation and revision of the manuscript. All authors have read and approved the final manuscript.

Acknowledgments

The authors acknowledge MCUT and Universiti Tenaga Nasional for their contributions to the implementation of the cross-national SDG-based English storytelling project.

References

- [1] Jongbloed, B., Enders, J., & Salerno, C. (2008). Higher education and its communities: Interconnections, interdependencies and a research agenda. *Higher education*, 56, 303–324. <https://doi.org/10.1007/s10734-008-9128-2>
- [2] Larrán Jorge, M., & Andrades Peña, F. J. (2017). Analysing the literature on university social responsibility: A review of selected higher education journals. *Higher education quarterly*, 71(4), 302–319. <https://doi.org/10.1111/hequ.12122>
- [3] Ali, M., Mustapha, I., Osman, S., & Hassan, U. (2021). University social responsibility: A review of conceptual evolution and its thematic analysis. *Journal of cleaner production*, 286, 124931. <https://doi.org/10.1016/j.jclepro.2020.124931>
- [4] Symaco, L. P., & Tee, M. Y. (2019). Social responsibility and engagement in higher education: Case of the ASEAN. *International journal of educational development*, 66, 184–192. <https://doi.org/10.1016/j.ijedudev.2018.10.001>
- [5] Leal Filho, W., Shiel, C., Paço, A., Mifsud, M., Avila, L. V., Brandli, L. L., Molthan-Hill, P., Pace, P., Azeiteiro, U. M., Ruiz Vargas, V., & Caeiro, S. (2019). Sustainable development goals and sustainability teaching at universities: Falling behind or getting ahead of the pack? *Journal of cleaner production*, 232, 285–294. <https://doi.org/10.1016/j.jclepro.2019.05.309>

- [6] Serafini, P. G., De Moura, J. M., De Almeida, M. R., & De Rezende, J. F. D. (2022). Sustainable development goals in higher education institutions: A systematic literature review. *Journal of cleaner production*, 370, 133473. <https://doi.org/10.1016/j.jclepro.2022.133473>
- [7] Barth, M., Adomßent, M., Fischer, D., Richter, S., & Rieckmann, M. (2014). Learning to change universities from within: A service-learning perspective on promoting sustainable consumption in higher education. *Journal of cleaner production*, 62, 72–81. <https://doi.org/10.1016/j.jclepro.2013.04.006>
- [8] Molderez, I., & Fonseca, E. (2018). The efficacy of real-world experiences and service learning for fostering competences for sustainable development in higher education. *Journal of cleaner production*, 172, 4397–4410. <https://doi.org/10.1016/j.jclepro.2017.04.062>
- [9] Kall, A. S., Uhrqvist, O., & Asplund, T. (2024). What's the matter in education for sustainable development? How sustainability stories make matter matter as issues or problems. *Environmental education research*, 30(4), 544–559. <https://doi.org/10.1080/13504622.2023.2213418>
- [10] Uhrqvist, O., Carlsson, L., Kall, A. S., & Asplund, T. (2021). Sustainability stories to encounter competences for sustainability. *Journal of education for sustainable development*, 15(1), 146–160. <https://doi.org/10.1177/09734082211005041>
- [11] Jones, E., Leask, B., Brandenburg, U., & de Wit, H. (2021). Global social responsibility and the internationalisation of higher education for society. *Journal of studies in international education*, 25(4), 330–347. <https://doi.org/10.1177/10283153211031679>
- [12] Chen, S. H. (2012). The establishment of a quality management system for the higher education industry. *Quality & quantity*, 46, 1279–1296. <https://doi.org/10.1007/s11135-011-9441-1>
- [13] Sangpikul, A. (2017). Implementing academic service learning and the PDCA cycle in a marketing course: Contributions to three beneficiaries. *Journal of hospitality, leisure, sport & tourism education*, 21, 83–87. <https://doi.org/10.1016/j.jhlste.2017.08.007>
- [14] Benneworth, P., & Jongbloed, B. W. (2010). Who matters to universities? A stakeholder perspective on humanities, arts and social sciences valorisation. *Higher education*, 59, 567–588. <https://doi.org/10.1007/s10734-009-9265-2>
- [15] Nejati, M., Shafaei, A., Salamzadeh, Y., & Daraei, M. (2011). Corporate social responsibility and universities: A study of top 10 world universities' websites. *African journal of business management*, 5(2), 440–447.
- [16] Mtawa, N. N., Fongwa, S. N., & Wangenge-Ouma, G. (2016). The scholarship of university-community engagement: Interrogating Boyer's model. *International journal of educational development*, 49, 126–133. <https://doi.org/10.1016/j.ijedudev.2016.01.007>
- [17] Latif, K. F. (2018). The development and validation of stakeholder-based scale for measuring university social responsibility (USR). *Social indicators research*, 140, 511–547. <https://doi.org/10.1007/s11205-017-1794-y>
- [18] Godonoga, A., & Sporn, B. (2023). The conceptualisation of socially responsible universities in higher education research: A systematic literature review. *Studies in higher education*, 48(3), 445–459. <https://doi.org/10.1080/03075079.2022.2145462>
- [19] Barth, M., Godemann, J., Rieckmann, M., & Stoltenberg, U. (2007). Developing key competencies for sustainable development in higher education. *International journal of sustainability in higher education*, 8(4), 416–430.
- [20] Wiek, A., Withycombe, L., & Redman, C. L. (2011). Key competencies in sustainability: A reference framework for academic program development. *Sustainability science*, 6, 203–218. <https://doi.org/10.1007/s11625-011-0132-6>
- [21] Brundiers, K., Wiek, A., & Redman, C. L. (2010). Real-world learning opportunities in sustainability: From classroom into the real world. *International journal of sustainability in higher education*, 11(4), 308–324. <https://doi.org/10.1108/14676371011077540>
- [22] Lozano, R., Ceulemans, K., Alonso-Almeida, M., Huisingh, D., Lozano, F. J., Waas, T., Lambrechts, W., Lukman, R., & Hugé, J. (2015). A review of commitment and implementation of sustainable development in higher education: Results from a worldwide survey. *Journal of cleaner production*, 108, 1–18. <https://doi.org/10.1016/j.jclepro.2014.09.048>
- [23] Lozano, R., Merrill, M. Y., Sammalisto, K., Ceulemans, K., & Lozano, F. J. (2017). Connecting competences and pedagogical approaches for sustainable development in higher education: A literature review and

- framework proposal. *Sustainability*, 9(10), 1889. <https://doi.org/10.3390/su9101889>
- [24] Knight, J. (2004). Internationalization remodeled: Definition, approaches, and rationales. *Journal of studies in international education*, 8(1), 5–31. <https://doi.org/10.1177/1028315303260832>
- [25] Altbach, P. G., & Knight, J. (2007). The internationalization of higher education: Motivations and realities. *Journal of studies in international education*, 11(3–4), 290–305. <https://doi.org/10.1177/1028315307303542>
- [26] Deardorff, D. K. (2006). Identification and assessment of intercultural competence as a student outcome of internationalization. *Journal of studies in international education*, 10(3), 241–266. <https://doi.org/10.1177/1028315306287002>
- [27] Leask, B. (2009). Using formal and informal curricula to improve interactions between home and international students. *Journal of studies in international education*, 13(2), 205–221. <https://doi.org/10.1177/1028315308329786>
- [28] Leask, B., & Bridge, C. (2013). Comparing internationalisation of the curriculum in action across disciplines: Theoretical and practical perspectives. *Compare: A journal of comparative and international education*, 43(1), 79–101. <https://doi.org/10.1080/03057925.2013.746566>
- [29] Soria, K. M., & Troisi, J. (2014). Internationalization at home alternatives to study abroad: Implications for students' development of global, international, and intercultural competencies. *Journal of studies in international education*, 18(3), 261–280. <https://doi.org/10.1177/1028315313496572>
- [30] De Wit, H., & Altbach, P. G. (2021). Internationalization in higher education: Global trends and recommendations for its future. *Policy reviews in higher education*, 5(1), 28–46. <https://doi.org/10.1080/23322969.2020.1820898>
- [31] Reed, J. E., & Card, A. J. (2016). The problem with plan-do-study-act cycles. *BMJ quality & safety*, 25(3), 147–152. <https://doi.org/10.1136/bmjqs-2015-005076>
- [32] Taylor, M. J., McNicholas, C., Nicolay, C., Darzi, A., Bell, D., & Reed, J. E. (2014). Systematic review of the application of the plan–do–study–act method to improve quality in healthcare. *BMJ quality & safety*, 23(4), 290–298. <https://doi.org/10.1136/bmjqs-2013-001862>
- [33] Seyfried, M., Ansmann, M., & Pohlenz, P. (2019). Institutional isomorphism, entrepreneurship and effectiveness: The adoption and implementation of quality management in teaching and learning in Germany. *Tertiary education and management*, 25, 115–129. <https://doi.org/10.1007/s11233-019-09022-3>
- [34] Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The qualitative report*, 13(4), 544–559.
- [35] Crowe, S., Cresswell, K., Robertson, A., Huby, G., Avery, A., & Sheikh, A. (2011). The case study approach. *BMC medical research methodology*, 11, 100. <https://doi.org/10.1186/1471-2288-11-100>
- [36] Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative health research*, 15(9), 1277–1288. <https://doi.org/10.1177/1049732305276687>
- [37] Gale, N. K., Heath, G., Cameron, E., Rashid, S., & Redwood, S. (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC medical research methodology*, 13, 117. <https://doi.org/10.1186/1471-2288-13-117>
- [38] Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for information*, 22(2), 63–75. <https://doi.org/10.3233/EFI-2004-22201>
- [39] Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European journal of general practice*, 24(1), 120–124. <https://doi.org/10.1080/13814788.2017.1375092>
- [40] Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International journal of qualitative methods*, 16, 1–13. <https://doi.org/10.1177/1609406917733847>