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Advancing Professional Competence through International Collaborative Internships and Applied Research Programs

Research Findings

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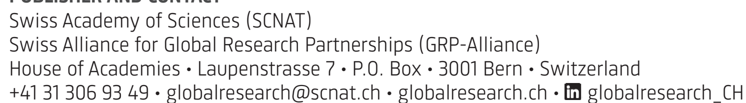

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This research explores how international collaborative internships and applied research programs contribute to professional competence by integrating experiential learning, equity, and systemic co-creation. Based on experiences from over 40 students and 15 institutions worldwide, the study critically examines preparation, support, feedback, and long-term impact. It applies Complexity Theory and Experiential Learning Theory to understand how students, host organizations, and home institutions interact and adapt. The findings reveal that meaningful engagement, inclusive design, and co-leadership are essential to maximize educational value and sustainability. The study offers practical guidance for enhancing intercultural learning and transforming global partnerships in higher education.

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SDGs: The international UN Sustainable Development Goals

With this report, the Swiss Academy of Sciences contributes to the SDGs 4, 5, 8, 10, 16, and 17: **'Quality education', 'Gender equality', 'Decent work and economic growth', 'Reduced inequalities', 'Peace, justice and strong institutions', and 'Partnerships for the Goals'.**

THE SDGS ARE TO BE ACHIEVED AROUND THE WORLD, AND BY ALL UN MEMBER STATES, BY 2030. THIS MEANS THAT ALL STATES ARE CALLED UPON EQUALLY TO PLAY THEIR PART IN FINDING SHARED SOLUTIONS TO THE WORLD'S URGENT CHALLENGES. SWITZERLAND IS ALSO REQUIRED TO IMPLEMENT THE GOALS ON A NATIONAL BASIS. IN ADDITION, INCENTIVES ARE TO BE CREATED TO ENCOURAGE NON-GOVERNMENTAL ACTORS TO MAKE AN INCREASINGLY ACTIVE CONTRIBUTION TO SUSTAINABLE DEVELOPMENT.

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List of Abbreviations

BFH-HAFL	Bern University of Applied Sciences, School of Agricultural, Forest and Food Sciences
CAS	Complex Adaptive Systems
CDE	Centre for Development and Environment – University of Bern
ELT	Experiential Learning Theory
ETHZ	ETH Zurich
FGD	Focus group discussions
GRP-Alliance	Swiss Alliance for Global Research Partnerships (former KFPE)
MOU	Memoranda of understanding
WUR	Wageningen University and Research
ZHAW	Zurich University of Applied Sciences

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1 Introduction and Objective

‘IT WAS LIKE STEPPING INTO A NEW WORLD, NOT JUST PROFESSIONALLY, BUT PERSONALLY. I DIDN’T JUST LEARN NEW SKILLS; I LEARNED HOW TO UNLEARN ASSUMPTIONS.’
STUDENT PARTICIPANT, FOCUS GROUP DISCUSSION

This reflection captures the transformative role of international collaborative internships and applied research programs, which are experiences that extend beyond technical training to challenge perceptions, enhance resilience, and promote the intercultural growth of students. These programs are increasingly central to higher education strategies worldwide, offering students a vital bridge between academic theory and real-world engagement. A study by Kaider et al. (2017) examined 1,500 assessments in work-integrated learning and found that such experiences develop employability skills. On the contrary, the programs lead students to access real jobs later, as the programs serve as platforms for critical reflection, cultural exchange and deepening, and collaborative problem-solving across borders (Baert et al., 2021). Often, they are promoted as win-win partnerships that benefit students, home institutions, and host organizations. While there is significant merit to these claims, the programs should be approached with analytical scrutiny to ensure inclusive, meaningful, and sustainable impacts (Watson et al., 2011; Stewart et al., 2021).

In an interconnected and complex world, international collaborative internships and applied research programs are increasingly used as key educational parts of institutions. These programs operate within a complex global landscape shaped by climate change, humanitarian crises, fragile governance, migration, digital transformation, and shifting geopolitical and economic realities. Amid these challenges, higher education institutions are placing growing emphasis on employability, often framing such programs as pathways to improved graduate outcomes. While this focus is both valid and valuable, it must not overshadow broader educational goals. The programs will also need to facilitate critical awareness, intercultural competence, and deep personal reflection, qualities that are essential for contributing responsibly to a global society and workforce. A balanced approach that encourages both technical expertise and critical engagement is, thus, required for preparing graduates to navigate and address the multifaceted challenges of our time (Lomer, 2020; Tomlinson & Nghia, 2022).

Facilitated by the Bern University of Applied Sciences (BFH), School of Agricultural, Forest, and Food Sciences (HAFL), and financed by the Swiss Alliance for Global Research Partnerships (GRP-Alliance – former KFPE), this research brings together more than 40 students from 15 institutions doing collaborative practical study and nearly 20 institutions and organizations across Switzerland and internationally, including partners in Africa, Asia, Latin America, and Eastern Europe. The objective of this research is to examine how international collaborative internships and applied research programs can more effectively align educational values with the needs of diverse stakeholders: students, host organizations, home institutions, and employers. Drawing on both real-world experiences and recent academic studies, this research explores how such programs enhance student learning, support institutional goals, and generate meaningful outcomes for host organizations and future employers. The research aims to identify both effective practices and persistent challenges, offering actionable insights to improve the design, implementation, and long-term impact of these initiatives across various contexts (Fitzgerald & Hudson, 2022; Killick & Foster, 2021).

Drawing directly from this research, which involved students and institutional actors engaged in international collaborative internships and applied research programs, we have developed a guide. ‘From Preparation to Reflection: Guidelines for Successful Practices in International Collaborative Internships and Applied Research Programs’ is designed to support home and host institutions, staff, students, and alumni in enhancing the quality, equity, and overall impact of these programs. This is not a checklist, nor a blueprint. It is a toolbox for reflection, action, and co-creation. Each ‘Successful Practice’ offers ideas that can be adapted to the different contexts under which the programs take place. Each ‘Potential Pitfall’ invites stakeholders to anticipate challenges and design for inclusion, sustainability, and scalability.

Students are the central participants in international collaborative internships and applied research programs. They engage directly in placements and projects, applying classroom knowledge in unfamiliar settings. The programs help them build practical skills like communication, adaptability, and problem-solving. Students

also develop a global mindset and experience working in culturally diverse environments. These outcomes are particularly valuable for career readiness and personal growth. However, participation is not equally accessible. Barriers such as financial constraints, visa requirements, or lack of institutional guidance can limit opportunities, especially for underrepresented groups (Jack & Doherty, 2021; Clarke, 2020).

Home institutions – typically universities – design, support, and accredit these programs. They are responsible for aligning the internship or research experience with academic standards. They facilitate student placements, manage relationships with host organizations, and assess student performance. For home institutions, these programs strengthen their global engagement profile, support graduate outcomes, and enhance international partnerships. However, their control over program goals and structures may unintentionally limit flexibility. When home institutions do not involve host organizations in program development, it can lead to mismatched expectations and missed learning opportunities (Maringe et al., 2020; Kiernan & Porter, 2023).

Host organizations are the institutions, private sector enterprises, non-governmental organizations, or community-based groups that receive students. They provide day-to-day supervision, contextual knowledge, and opportunities for applied learning. Their participation enriches student learning by offering real-world insights. However, host organizations may also face challenges. Short placements, limited preparation, or lack of resources make hosting students burdensome. When programs are built on long-term and strategic partnerships, host organizations benefit through knowledge exchange, project support, and expanded networks (Killick & Foster, 2021; Fitzgerald & Hudson, 2022).

Employers, both current and future, are also key stakeholders. They often view international collaborative internships and applied research programs as indicators of work readiness. Graduates who have completed such programs are often seen as more adaptable, experienced, and globally aware. Employers benefit from graduates who can work across cultures, communicate effectively, and apply critical thinking to real-world problems. At the same time, employers expect that international collaborative internships and applied research programs not only deliver technical skills but also develop soft skills that align with workplace demands. Close engagement between academic institutions and employers can help ensure that program outcomes meet labor market expectations (Tomlinson & Nghia, 2022; Clarke, 2020).

Each stakeholder brings a different perspective and set of priorities to international collaborative internships and applied research programs. Aligning these priorities requires careful coordination and shared commitment. Short durations can limit the depth of engagement. Many international collaborative internships and applied research programs last from a few months to a year. Students may not have enough time to understand the local context or build meaningful relationships. Without guided reflection, key lessons may be missed. This calls for the need of structured orientation, mentorship, and feedback mechanisms that have become essential parts of the programs. These tools support students in getting the best out of their time and integrating their experiences into long-term learning (Clarke, 2020; Killick & Foster, 2021).

Given the diverse features and processes involved in these programs, this research began with a central question: How can international collaborative internships and applied research programs achieve the greatest impact? Bringing real-world experiences into the classroom enhances academic learning, while ongoing dialogue among students, home institutions, host organizations, and employers strengthens the overall program. Such collaboration improves preparation, placement, and reflection, and also supports the integration of insights into teaching, the redesign of program structures, and the broad dissemination of effective practices.

Embedding such insights into curricula and institutional strategies ensures that knowledge is retained, shared, and scaled across cohorts. This approach contributes to building more inclusive, relevant, and future-ready education systems (Fitzgerald & Hudson, 2022; Kiernan & Porter, 2023). Drawing on prior research and stakeholder experiences, this research investigates how collaborative internships and applied research programs can maximize their impact by extending benefits beyond the individual. It explores how these programs can better align educational goals with the needs of diverse stakeholders, enhance academic learning through practical engagement, and improve design and implementation through sustained collaboration.

The rest of the paper is structured as follows: The Conceptual Framework (Section 2) lays the foundation for

understanding international collaborative internships and applied research programs through the lenses of Complexity Theory and Experiential Learning. Section 3 (Methods) outlines the research's systems-based theory of change and explains the mixed-methods approach used for data collection, including interviews, focus group discussions, and literature analysis. Section 4 (Analysis of Findings) presents the core themes that emerged from the data, ranging from preparation and in-program support to debriefing and feedback mechanisms, highlighting the diverse experiences of students and stakeholders. Section 5 (Implications) discusses priority areas, emergent topics, and strategic directions for future programming, grounded in both theory and practice. Finally, Section 6 (Conclusions and Recommendations) synthesizes the insights, offering practical and policy-oriented guidance for enhancing the inclusivity, relevance, and long-term impact of global learning partnerships.

2 Conceptual Framework

International collaborative internships and applied research programs abroad can be understood through the lens of Complex Adaptive Systems (CAS). These systems consist of multiple interconnected agents. These include students, home institutions, host organizations, and employers whose interactions generate non-linear outcomes, feedback loops, and emergent patterns (Holland, 1992; Plsek & Greenhalgh, 2001). The programs are dynamic, and they evolve based on continuous adaptation, mutual learning, and environmental responsiveness.

To analyze learning within this complexity, Experiential Learning Theory (ELT) by David Kolb (1984) offers a structured lens. ELT outlines four cyclical stages: 1) concrete experience, 2) reflective observation, 3) abstract conceptualization, and 4) active experimentation. These stages align with CAS properties. Both emphasize adaptation, feedback, and evolution. By integrating ELT with CAS, this framework accounts for both structured learning and emergent outcomes in real-world environments (Davis & Sumara, 2006).

2.1 Concrete experience: Immersive learning and emergence

Students enter unfamiliar professional and cultural environments. This immersion triggers learning through real-time challenges and adaptive responses. In engineering, students may see how infrastructure limitations affect implementation. In business or agriculture, they identify gaps in supply chains or sustainability practices. These hands-on experiences enhance critical skills, including creativity, cultural sensitivity, and systemic awareness (Kolb, 1984; Mezirow, 1991).

Host organizations also adapt. They act as agents within the system, responding to new insights brought by students. Their practices evolve when external perspectives challenge internal routines. Simultaneously, home institutions prepare students to navigate uncertainty. With pre-departure training and mentorship, students learn to respond flexibly to dynamic contexts (Morrison, 2010). These interconnected adaptations enhance outcomes for all stakeholders.

2.2 Reflective observation: Feedback loops and adaptive learning

Reflection enables students to make sense of complex interactions. They assess what worked, what failed, and why. Agriculture students, for example, reflect on how their recommendations matched local norms. Engineering students evaluate prototype testing in unfamiliar technical settings. Business students examine the viability of market strategies in constrained economies. This process sharpens contextual understanding (Schön, 1983; Moon, 2004).

Feedback loops are also active in host organizations. Supervisors reflect on the effectiveness of student contributions. They revise onboarding processes, project scopes, or collaboration practices accordingly. At the institutional level, universities gather reflections through reports and debriefings. These insights inform program design and future curriculum alignment (Kolb & Kolb, 2009).

2.3 Abstract conceptualization: Building coherence across systems

Through abstraction, students synthesize their experiences into broader frameworks. Engineering students consider how technical changes ripple through workflows. Business students explore the strategic alignment of financial plans with growth models. Agriculture students map how environmental practices link to policy and community behaviors. These insights contribute to systems thinking (Sterman, 2000; Senge, 2006).

Host organizations use student findings to inform strategy. Some adjust policies or adopt new tools. Home institutions incorporate these abstractions into teaching. They revise learning outcomes, integrate student experiences into case studies, and shape future collaborations. This co-construction fosters institutional learning and sectoral innovation (Boud & Walker, 1998).

2.4 Active experimentation: Co-creation and system resilience

This stage emphasizes trying new ideas in practice. Students develop and test strategies in real time. A business student might implement a marketing plan. An engineering student could deploy a prototype tool. An agriculture student may trial participatory farm models. These pilots

are informed by prior experience and guided by iterative feedback (Kolb, 1984; Reason & Bradbury, 2001).

Host organizations serve as experimental ecosystems. They test, adapt, and potentially institutionalize innovations. This strengthens resilience and cultivates a culture of co-creation. Meanwhile, home institutions document and share these outcomes. They use this knowledge to enhance future program design and support mechanisms (Davis & Sumara, 2006; Wenger, 1998).

CAS emphasizes emergence. Small changes in behavior can generate larger shifts in system patterns. This makes active experimentation central to long-term impact. Across the cycle, students, institutions, and organizations co-evolve, generating meaningful, sustainable innovation within education and practice.

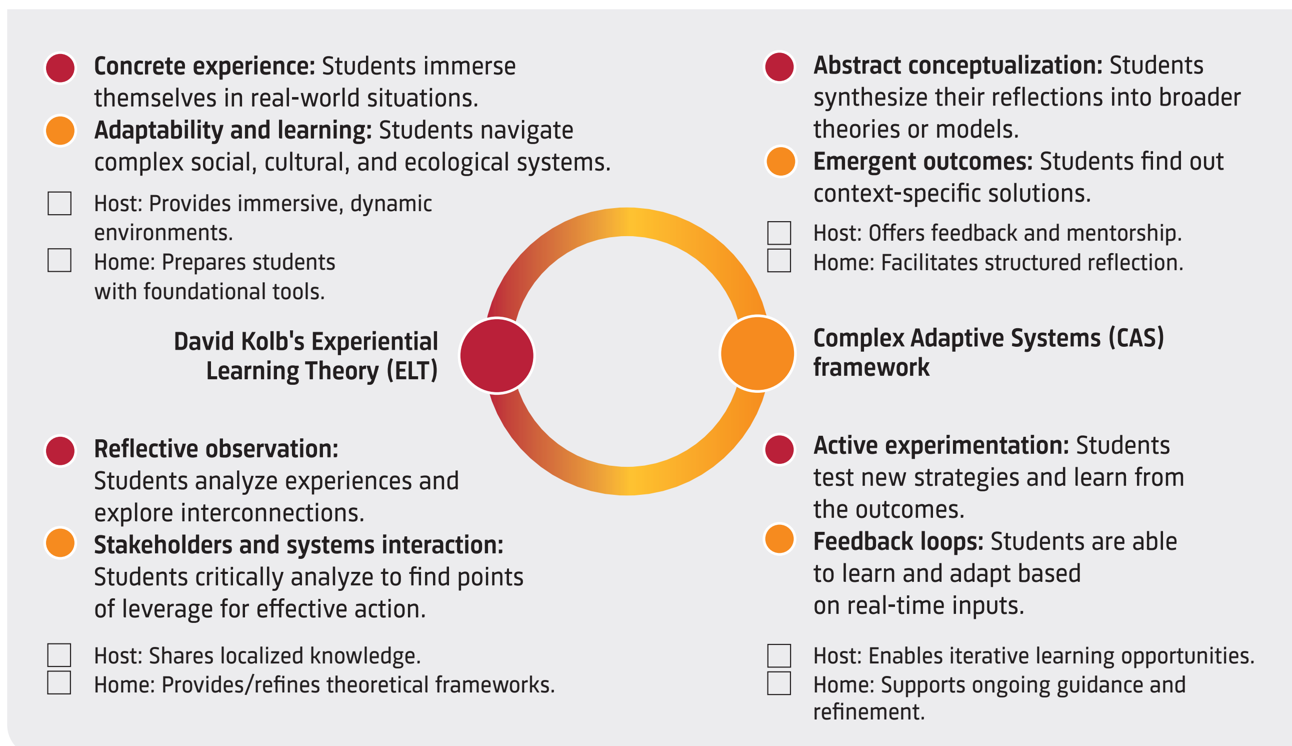

Figure 1: Conceptual framework

3 Methods

This research adopts a systems-based theory of change. It highlights the interdependence between students, host organizations, and home institutions in producing meaningful learning outcomes. Clear guidelines, reflective practices, and integrated teaching are essential. These mechanisms increase the effectiveness, adaptability, and equity of international collaborative internships and applied research programs abroad (Boud & Solomon, 2001; Jenkins & Healey, 2010).

In this research, we assumed that:

If:
- Support systems and protocols create structured learning spaces for all stakeholders
- Students' lived experiences are embedded into curricula
- Knowledge-sharing networks support ongoing adaptation

Then:
- Stakeholders will enhance their capacity for decision-making, reflection, and collaboration
- Programs will become more impactful, inclusive, and sustainable

This contributes to:
- Preparing globally competent, problem-solving professionals
- Strengthening mutual benefit for students, home institutions, and host organizations through equitable partnerships

This research applied a mixed-methods design, combining qualitative data with secondary sources. This ensured triangulation and contextual depth. Seventeen interviews were conducted with stakeholders from academia and host organizations. The research also held an in-person workshop in May 2024 with 20 participants to solicit ideas and experiences. Academic partners included Bern University of Applied Sciences (BFH), ETH Zurich (ETHZ), Centre for Development and Environment – University of Bern (CDE), University of Ghana, State University of Georgia, WUR (Wageningen University and Research), ZHAW (Zurich University of Applied Sciences), and Kenyatta University. NGOs included Helvetas, Mission21, Simon Patiño Foundation, and Swisscontact. Cinfo and EAWAG were also part of the research. This diversity offered a wide lens on challenges, good practices, and institutional expectations, strengthening the research's analytical scope. Findings were triangulated with interview and focus group discussion (FGD) data to ensure consistency and depth. A list of home and host institutions of FGD participants is provided in Annex 1.

As shown in Figure 1, the interviews followed three phases: preparation, immersion, and debriefing. Interviews were transcribed and coded using MAXQDA. Coding aligned with the theory of change to extract patterns and actionable insights. Three FGDs were held with 42 students. Participants represented both 'Global South' and 'Global North' contexts.[1] Sub-groups within FGDs allowed deeper sharing. The discussions addressed motivations, challenges, learning outcomes, and ethical dilemmas. Notes were compiled and analyzed thematically. This method captured student voices and revealed shared and divergent experiences (Morgan, 1997).

Existing literature, program reports, and policy documents were analyzed to complement primary data. Focus areas included: the role of intercultural competence and soft skills (Deardorff, 2006); best practices in mentoring and institutional alignment (Smith et al., 2018); long-term impacts on graduate employability (Tomlinson, 2017); and barriers to access and inclusion in global internships (Jack & Doherty, 2021). Figure 2 illustrates the logical flow and interconnections of the research, mapping how preparation, in-program engagement, and post-program reflection are linked through feedback loops across students, home institutions, host organizations, and employers. It highlights the systems-based approach underpinning the study, showing how interconnected stages and stakeholder interactions collectively inform program design, enhance learning outcomes, and generate adaptive, sustainable impacts impacts.

1 Global South refers to regions historically shaped by colonialism and current global inequities, including parts of Africa, Asia, Latin America, and Oceania, where international education and professional training often intersect with postcolonial dynamics.

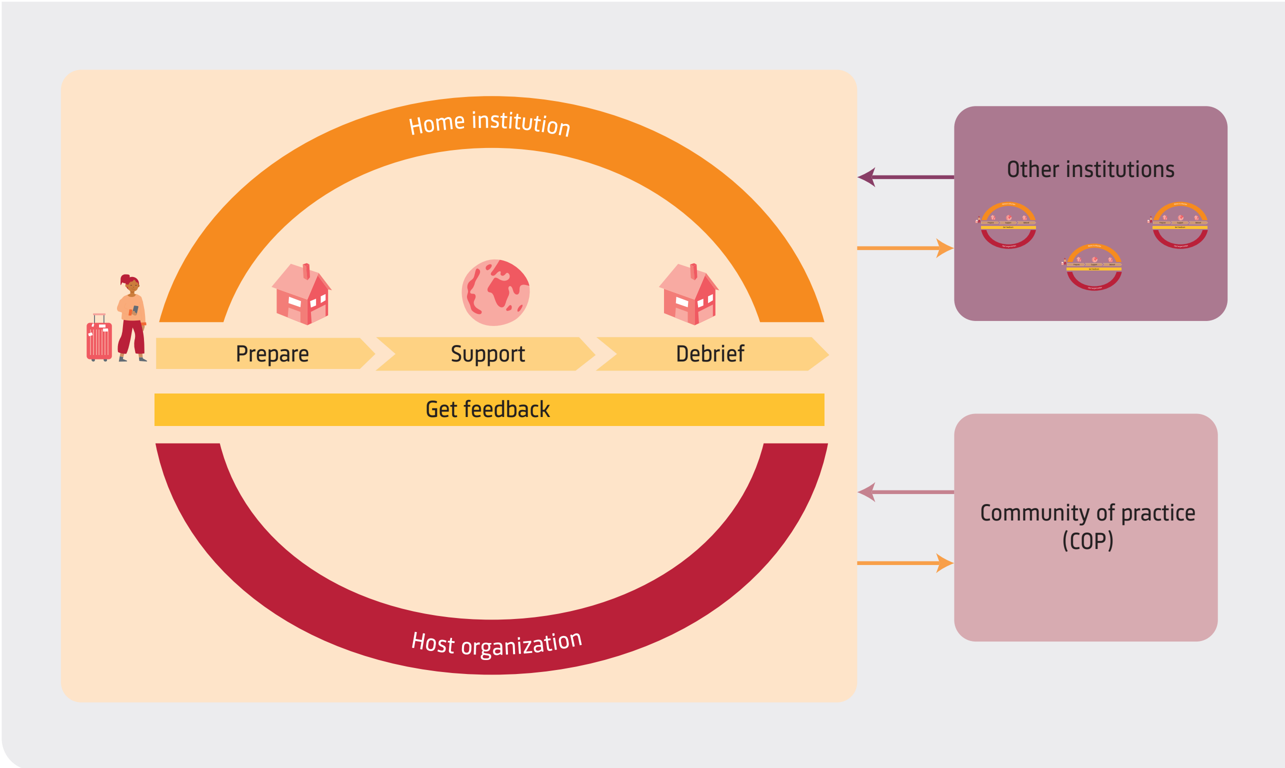

Figure 2: The logical flow and interconnections of the research

4 Analysis of Findings

4.1 Preparation: Beyond checklists and cultural stereotypes

Preparation is often described as the cornerstone of successful programs. This assumption is not wrong, but it is incomplete. The prevailing model continues to treat pre-departure sessions as bureaucratic checklists: cultural briefings, travel logistics, and safety protocols. These are important, yet insufficient. The findings of this research reveal that meaningful preparation must go further by engaging with deeper questions of power, positionality, and epistemic humility. Although this kind of preparation seems straightforward, our finding shows that it is rarely practiced in depth.

Importantly, institutions themselves invest heavily in preparation, not only for students but also at an organizational level. Home institutions take on the responsibility of maintaining partner networks, formalizing agreements, clarifying expectations, and helping students with critical logistics such as visas and travel arrangements. Host organizations prepare by planning projects, assessing local capacity, allocating mentors, and ensuring that the placement aligns with institutional priorities. These contributions are essential, though often invisible in student narratives.

One faculty member affirmed the dominant view by stating, 'Our workshops help students approach challenges with confidence.' However, students repeatedly challenged this assumption. One student commented, 'I had no cultural or practical preparation before I left. I had to learn everything the hard way.' This contrast exposes an assumption in higher education that broad, generalized training is sufficient to prepare students for complex environments. From the host's perspective, these gaps are just as evident. As one mentor noted, 'We were prepared for the student's arrival, but not for the assumptions they brought with them.'

Students consistently called for preparation that was localized, context-specific, and informed by decolonial thinking. As one focus group participant explained, 'As a researcher working in a former colony, I needed to understand the historical context—but this wasn't covered in our training.' This absence reflects a larger failure to challenge the dominance of Western-centric knowledge in international education (Andreotti, 2006; Stein, 2021). Hosts echoed this concern, emphasizing that students sometimes approach their work without critical awareness of global power dynamics, which can undermine relationships and project outcomes. Preparation that ignored these dimensions unintentionally risked reinforcing power imbalances, and in some cases, contributed to dynamics that were perceived as extractive engagement.

Kolb's model (1984) emphasizes the importance of immersive learning, while Complexity and Adaptive Systems (CAS) theory builds on this by asserting that learners and systems co-evolve. Preparation should therefore enable students not only to adapt to new contexts but also to engage critically with them (Davis & Sumara, 2006). According to our findings, the most effective programs provided both institutional and local orientations. Academic frameworks from the home institution were complemented by insights shared by host organizations, creating a deeper, grounded understanding. Yet even in strong programs, some sessions slipped into cultural essentialism. One student shared, 'We were told things like 'people in this region are collectivist,' but it didn't help me understand the specific dynamics I encountered.'

Stakeholders across both host and home institutions observed that cultural briefings often oversimplify and stereotype instead of preparing students to engage with complexity and contradiction, a concern echoed by Abdallah-Pretceille (2006). Hosts especially emphasized that these simplified narratives limited students' ability to navigate real-life settings. The most successful institutions approached preparation as a process of building reflexivity, replacing generalizations with critical self-awareness and contextually informed learning.

4.2 Support during programs: Not just supervision, but systemic engagement

While preparation sets the stage, it is during implementation that the strength of a partnership is truly tested. Many home and host institutions still view support as either logistical oversight or periodic check-ins. However, international collaborative internships and applied research programs suggest that effective support must be understood as a relational, evolving, and embedded process.

Our analysis reveals that experiences with mentorship and supervision varied significantly. Some students reported strong support from their home institution but little engagement from their host organization, while others experienced the reverse. A few received high-quality support from both, whereas others felt disconnected from

both sides. Host institutions shared similar reflections. Several mentors reported not being involved in selecting or preparing students, which limited their ability to provide tailored guidance. One host explained, 'We want to support students, but we aren't always consulted about their goals in advance. That makes it harder to design a meaningful role.'

From the home institution side, staff emphasized the importance of maintaining relationships with hosts throughout the placement period. While some programs coordinated regular check-ins and collaborative reviews, others admitted that communication with hosts decreased significantly once students were placed. This inconsistency highlighted a broader issue. Support was often framed as something institutions provide to students, rather than as a co-constructed framework that involves all actors.

Students who thrived described mentorship that was relational, available, and invested in their growth. One participant noted, 'My host mentor was always available. That guidance made a huge difference.' Others, however, described feeling isolated and unsupported. 'I felt like a burden because my host organization didn't have a clear plan for me,' one student shared. This contrast highlights that success is less about institutional prestige and more about local capacity, clarity of roles, and shared expectations.

Host institutions emphasized that their contributions extended beyond supervision. Many viewed the internship as an opportunity for knowledge exchange, innovation, and institutional learning. These mutual benefits were often overlooked in program design. One host explained, 'We are not just offering a placement. We are investing in the partnership.' Effective support depends on a strong local presence, coordination across institutions, and shared responsibility. When these elements were present, students noted seamless collaboration between home and host. When they were absent, students experienced delays, confusion, and financial disruptions. One student explained, 'I didn't receive my scholarship funds on time. That affected my whole experience.' Hosts, in turn, expressed frustration when such logistical issues impacted their ability to deliver quality support.

Too often, support structures are built around an outdated, unidirectional model in which the student is seen solely as the recipient and the host as the provider. This framing overlooks the reciprocal and co-constructive nature of meaningful learning experiences. Both CAS theory and experiential learning models emphasize that learning is co-created through dynamic interaction. In this view, interns are not merely beneficiaries but also active contributors, and hosts themselves can gain new insights, perspectives, and professional renewal through the exchange. One host mentor captured this mutual process well: 'When students try something that doesn't work, we guide them to reflect and adjust. That's where growth happens.' This comment illustrates not only pedagogical mentorship but also the iterative, reflective dialogue central to shared learning.

Institutional inconsistencies in program delivery often reflect deeper structural misalignments. A critical question emerges: Are these programs genuinely designed to facilitate mutual learning, or are they primarily serving institutional branding goals? By institutional branding, we refer to the tendency of universities to use international collaborative internships and applied research programs as a promotional tool. These programs are often presented as evidence of global engagement, cultural diversity, and career readiness in brochures, rankings, and public communications. In such cases, the focus may shift from cultivating meaningful intercultural learning to maintaining a competitive image. This risks reducing complex student experiences to symbolic gestures, rather than supporting the deeper pedagogical work required. The findings suggest that sustainable and meaningful support requires more than formalized checklists. It demands a systemic commitment grounded in trust, equity, and shared ownership between all parties involved.

4.3 Debriefing: The most overlooked phase of experiential learning

Although debriefing corresponds to the final stage in Kolb's learning cycle (i.e., reflective observation), it remains the most neglected component of most programs. The data from this research indicate that many students returned with no formal opportunity to make sense of them. One student summarized this gap: 'I submitted a report, but no one followed up.' This lack of closure limits the possibility of transformation. CAS theory emphasizes that systems adapt through feedback loops (Sterman, 2000), yet without a structured opportunity for reflection, experiences cannot become insights.

Some programs offered more comprehensive models. These included multiple debriefing stages—one with the host institution, one with the home university, and one

with the program coordinator. A student shared, ‘Each session gave me a different way to analyze my experience.’ These multi-perspective reflections helped students link their personal development to wider institutional or societal issues. Hosts who were included in these processes also described benefits. One noted, ‘It gave us a chance to reflect on what we learned from the student as well.’

However, this level of reflection was rare. Many host institutions reported that they were not part of the debriefing process at all. They were asked to evaluate students but received no feedback on how their contributions were perceived. One host stated, ‘We invest in mentoring, but we never know whether it worked for the student. We’re just left guessing.’ Home institutions also recognized that debriefing was often inconsistent. In some cases, it was reduced to a written report or evaluation form, treated more as an administrative requirement than as a space for critical reflection. This narrow approach overlooks the kinds of learning that matter most: navigating uncertainty, adapting to complex environments, and confronting ethical dilemmas. These are the very outcomes that formal assessments often fail to capture.

Stakeholders across the board confirmed that meaningful reflection cannot be passive or individual. It must be dialogical, intentional, and systemic. One host reflected, ‘It’s not just about recounting what happened. It’s about understanding why it mattered and how it changed the way you think.’ The absence of structured debriefing prevents institutions from using student experiences to inform curriculum, improve partnership design, or refine program goals. When host institutions are excluded, they lose valuable insight into their own practices. If learning is to be reciprocal, then debriefing must become a shared process. Only then can programs close the loop between experience and transformation for students, hosts, and home institutions alike.

4.4 Feedback Collection: Formal forms or feedback ecosystems?

Feedback is often reduced to evaluation forms and end-of-program surveys. These mechanisms are typically administered after a placement and serve as static assessments of student satisfaction or outcomes. However, what students described in this research was a far more dynamic, and sometimes absent, reality. One participant commented, ‘No one asked me how the program could be improved,’ while another described a more engaged experience: ‘The daily feedback from my host helped me adapt. It changed how I approached my work.’ These contrasting experiences point to a flawed assumption embedded in many institutional models: the belief that feedback is a one-time transaction rather than a continuous, dialogical process.

From the perspective of CAS theory, feedback should be viewed as a recursive and adaptive mechanism. Effective systems do not operate on fixed inputs and outputs. Instead, they evolve through ongoing cycles of sensing, responding, and adjusting (Plsek & Greenhalgh, 2001). Our findings support this view, suggesting that meaningful feedback is not a procedural task, but rather a cultural practice that requires time, trust, and mutual engagement. Home institutions that moved beyond standardized surveys and integrated feedback directly into curriculum design reported tangible improvements. One faculty member shared, ‘Based on student feedback, we added modules on conflict resolution. It filled a critical gap.’ These examples show that feedback, when treated as a tool for collective growth, can drive curricular innovation and institutional learning.

However, where feedback was siloed or left unused, students described feeling dismissed or devalued. One participant noted, ‘We gave suggestions, but we never saw changes. It felt performative.’ This sentiment was echoed by several others who expressed that feedback mechanisms often appeared as symbolic gestures rather than genuine invitations for dialogue and improvement. Importantly, the host organizations interviewed in this research also felt sidelined in institutional feedback loops. While many were required to assess student performance, they were rarely asked how the program worked from their perspective or how institutional processes could be improved. One host organization explained, ‘We provide feedback about the student, but no one asks how we experienced the collaboration. It’s a one-way street.’ This approach not only limits opportunities for mutual improvement but also weakens trust and reduces host engagement in the long term.

Some host mentors described offering regular informal feedback to students, often during daily check-ins or project reflections. This immediate, responsive feedback was valued by students and often made a significant difference in their learning. However, these contributions were rarely captured in formal evaluations or shared with the home institution. The lack of systemic structures to col-

lect, synthesize, and respond to such feedback prevents programs from evolving in meaningful ways.

Peer-to-peer and alumni feedback also remain underutilized. Students expressed a strong desire for more structured opportunities to learn from past participants, including mentoring systems, case libraries, and informal knowledge exchanges. These mechanisms align with Wenger's concept of Communities of Practice, which emphasizes that learning occurs through shared engagement, identity-building, and social interaction (Wenger, 1998). When feedback is embedded within such communities, it becomes part of a living ecosystem that nurtures learning across cohorts and institutions.

This research suggests that institutions should move away from extractive feedback models that ask, 'What did you learn?' and toward generative models that ask, 'How can we grow together?' This shift requires not only changes in practice but also changes in mindset. Feedback must be positioned as a shared responsibility among students, hosts, and home institutions. It must also be valued as a formative process that contributes to both individual growth and systemic transformation.

5 Implications: Priority Areas, Emergent Topics, and Future Directions

As higher education institutions increasingly integrate international collaborative internships and applied research programs into global learning agendas, it is essential to move beyond symbolic gestures toward deeply embedded, equitable, and reflexive models. This section identifies key priority areas, discusses emergent topics of concern and opportunity, and outlines future directions that stakeholders must consider. These insights are grounded in both the research's findings and contemporary scholarship.

5.1 Priority area

5.1.1 Rethinking experiential learning: Beyond the illusion of automatic growth

Experiential learning is often idealized as 'inherently transformational'. This research observes that there seems to be a pervasive belief among educators and institutions that sending students into unfamiliar, often cross-cultural contexts automatically leads to personal growth, critical thinking, and professional maturity. Practical learning tends to be idealized in perception. This research challenges the widespread belief that exposure alone leads to growth. It shows that the value of experience depends on how it is prepared, framed, supported, and critically reflected. Several students and faculty emphasized that without adequate preparation, such programs can result in superficial engagement or even reinforce cultural stereotypes.

As one student noted, 'It felt like we were just dropped into a new country with a few safety tips, but no real understanding of the power dynamics at play.' This aligns with Kolb's experiential learning model (1984), which argues that learning emerges through a cycle involving concrete experience, reflection, conceptualization, and experimentation. When students are placed in unfamiliar contexts without guided reflection or conceptual tools, they may remain stuck at the level of experience without developing deeper insight. Similarly, Mezirow's theory of transformative learning (1991) highlights that meaningful change requires critical reflection on assumptions and active engagement with disorienting dilemmas. Without structured support to make sense of complex encounters, the transformative potential of these programs remains unrealized.

Practically, this means pre-departure training cannot be generic or brief. Instead of limited cultural briefings, students should engage in in-depth, context-specific orientations that explore the political histories, ethical dilemmas, and socio-economic realities of their host environments (Andreotti, 2011). For instance, students going to post-colonial contexts should be guided to reflect on legacies of colonization, systemic inequality, and the ethics of intervention. Role-playing, case studies, and discussion-based modules were mentioned as good ways to prepare students for the tensions they may encounter.

Additionally, scaffolding during the programs is critical. Regular structured reflection sessions, facilitated by mentors or faculty, helped students synthesize experiences with academic theory and challenge their own assumptions. For example, pairing students with mentors trained in intercultural facilitation provided a safe space for debriefing and growth. Without these reflective loops, the programs risk becoming 'transactional' rather than 'transformational'. Embedding real-time feedback mechanisms into program design strengthens the bridge between theory and practice and develops the adaptive thinking essential for complex global challenges (Moon, 2004; Sipos et al., 2008).

5.1.2 Equity in partnerships: From principles to practice

The principle of 'mutual benefit' in global partnerships is widely invoked in policy and rhetoric, yet often remains unrealized in practice. Host institutions, especially those in the 'Global South', are frequently positioned as logistical facilitators rather than equal partners in program design or academic inquiry. This imbalance reproduces historical asymmetries and undermines the goals of ethical collaboration.

Findings from this research show that host organizations often lack input in shaping the programs' objectives or student learning outcomes. One host expressed frustration, saying, 'We're not just a training ground. We have expertise, too, but we're rarely asked to contribute to curriculum decisions.' Scholars like Stein (2021) and Tikly & Milligan (2016) have documented how these dynamics mirror broader patterns of neocolonial engagement in international education.

The 'Guide for transboundery research partneships', published by the GRP-Alliance, are handy in such cases. To operationalize equity, institutions will increasingly need to institutionalize mechanisms for co-design. For instance, memoranda of understanding (MOUs) should go beyond administrative arrangements and include clauses about shared decision-making, co-authorship opportunities, and mutual feedback processes. Regular joint meetings between home institutions and host organizations should be built into the calendar, not as one-time consultations, but as ongoing dialogues. Some of the stakeholders who participated in this research managed to do this well; however, their excellent practices and experiences have remained 'islands of success' without such positive outcomes being widely shared and leveraged by others.

Furthermore, this research found that institutions will need to resource these partnerships equitably. Hosts often bear the burden of supervising students without adequate financial or logistical support. Grant funding should include direct compensation for host staff, investment in shared infrastructure (e.g., digital tools or office space), and professional development opportunities. Recognizing host organizations as knowledge producers also means supporting their research agendas and creating space for reciprocal learning.

5.1.3 Structural inclusion: Designing for equity from the ground up

While institutions increasingly promote diversity and access, actual program infrastructure sometimes fails to support students from underrepresented or marginalized backgrounds. This is especially clear among students from the 'Global South', who face structural barriers including visa rejections, financial hardship, language gaps, and institutional discrimination. A host administrator lamented, 'Visa issues remain a major hurdle, and we often lose brilliant candidates because of bureaucratic bottlenecks.'

Too often, institutions approach inclusion as an accommodation rather than a foundational design principle. This research suggests a shift is needed: from inclusion as participation to inclusion as structure. This involves, as demonstrated by some of the stakeholders in this research, proactively identifying and removing systemic barriers at every stage of the program. For instance, visa assistance should not be left to students; institutions should establish dedicated liaison officers to support the process. Financial aid must be designed with flexibility to cover hidden costs, like technology, travel contingencies, or caregiving responsibilities.

Moreover, psychological and cultural support is available and institutionalized, if not by most, but by a few of the stakeholders. Peer mentoring networks, multilingual resources, and intercultural navigators are found to be critical in significantly reducing cultural dislocation. One student from a low-income background shared that a simple pre-departure discussion about money management abroad would have made a huge difference. The point that this research seeks to emphasize is that equity is not achieved through statements of intent but through sustained attention to logistics, emotional labor, and institutional responsiveness. As de Wit and Altbach (2021) argue, equity in international partnerships must be structurally embedded, not merely aspirational or symbolic..

5.1.4 Dynamic knowledge systems: From documentation to iteration

An important part of this research's findings is that the current system of knowledge management within international collaborative internships and applied research programs often treats student outputs, such as reports, presentations, or field notes, as end products. In reality, these artifacts hold immense potential for institutional learning and long-term collaboration, but they are frequently underutilized. As one faculty member noted, 'There's a wealth of insight in these reports, but they disappear into archives, and nobody revisits them.'

To transform this issue, our research proposes that institutions increasingly invest in living knowledge systems – platforms and communities that enable ongoing sharing, reflection, and feedback. For example, creating digital repositories where student work is indexed by theme, geography, and impact is found to be highly beneficial in allowing future students and hosts to build on past efforts. These platforms should include follow-up updates from alumni and host organizations to track long-term outcomes.

Communities of practice (Wenger, 1998) and digital collaboration spaces, like EduCOP, ETH4D, or Movetia, show how iterative engagement creates sustained learning ecosystems. These models reflect the principles of CAS (Davis & Sumara, 2006), where continuous feedback loops enable collective learning and adaptation over time. To make this work, institutions must assign dedicated staff

to facilitate these exchanges, document outcomes, and ensure that insights loop back into program design. It is crucial to make a follow-up with existing platforms to integrate the findings of this research and explore the most effective and efficient way of facilitating critical reflections and sharing of practices.

5.2 Emergent Topics

5.2.1 Engaging global challenges: Decolonization, sustainability, and justice

Our finding confirms that international collaborative internships and applied research programs offer unique entry points for students to engage with some of the world's most urgent challenges, including climate change, inequality, and the legacies of colonialism. However, unless these topics are consciously integrated into program design, the opportunity for deep engagement is lost. Several students reported that they were discouraged from asking 'hard questions' about social justice or colonial legacies, under the guise of 'cultural sensitivity'. To be fair, a couple of home institutions interviewed for this research demonstrated that they have models specifically focusing on such topics, where students have the space to critically discuss complex topics.

Perhaps ethical engagement will need to be built into the architecture of global programs. This includes incorporating sessions on the history of development cooperation or aid, case studies of extractive research, and critical discussions about privilege and power. As one participant remarked, 'There's a fine line between learning from a community and exploiting it. Programs must teach students how to recognize and navigate that boundary.' Systems thinking, a way of understanding the interdependence between actors, structures, and outcomes, can help students situate their actions within broader political and ecological systems (Sterman, 2000).

As a few of the home institutions are doing, more and more faculty should facilitate this by asking students to map their own positionality and by creating assignments that require students to identify feedback loops and leverage points in real-world scenarios. These approaches prepare students to think holistically, act ethically, and engage courageously without feeling that their voices are stifled for the sake of cultural sensitivity, as pointed out above.

5.2.2 Supporting innovation through student-led ideas

Hosts consistently described students as valuable sources of innovation. Their 'outsider' status often allows them to question norms and introduce fresh approaches. One organization reported that a student helped them digitize a previously manual process, saving time and money. However, this potential can only be realized if students are supported to contribute meaningfully.

This means that home institutions should encourage co-creation projects where students work alongside hosts to develop new tools, processes, or campaigns. Moreover, there must be a culture that normalizes experimentation, failure, and iteration. For instance, students could present their proposals in peer-reviewed 'design labs' before deployment, receive feedback, and refine their ideas. Mentors should be trained to support creative problem-solving, not just enforce compliance with deliverables. These structures ensure that innovation is not left to chance but built into the fabric of the learning process.

5.2.3 Feedback loops and professional ecosystems

Once again, our finding confirms that many programs treat the conclusion of the formal experience as the end of the journey. However, alumni frequently report that the most profound insights and impacts unfold months – or even years – afterward. Without channels for continued engagement, these lessons are lost to both the individual and the institution.

Our research thus proposed that programs should include formal mechanisms for post-program engagement, such as alumni forums, reflective surveys six months later, and annual virtual meetups with past participants and hosts. These are, if not entirely, to the most part, either practiced in fragmented and irregular manners or hardly done. These touchpoints allow institutions to track longitudinal impacts, share emerging best practices, and foster professional networks that span borders. As one faculty member observed, 'When we maintain these connections, we're not just creating internships we're building communities.' These relational systems amplify the long-term value of global programs and create enduring legacies of learning and collaboration.

5.3 Future Directions

The findings of this research point out that the future of international collaborative internships and applied research programs lies in their ability to evolve beyond current limitations and move toward inclusivity, co-creation, sustainability, and systemic transformation. These programs are highly relevant, but if the objective is to achieve inclusive, sustainable, and scalable impacts, the programs will need to shift from being 'episodic' and 'siloed' to becoming 'integral' parts of the global learning infrastructure. What follows are strategic directions and practical imperatives that institutions, funders, and host organizations will potentially find important to collectively pursue and ensure long-term value, meaningful engagement, and equitable access.

5.3.1 From access to structural inclusion: Embedding equity in program design

A foundational shift that emerged from this research is the need to treat inclusion not as a goal, but as a design principle. Historically, inclusion efforts have been additive, such as additional scholarships, targeted recruitment, or isolated support services. While these are important, they do not address the deeper structural asymmetries that continue to hinder participation for students from underrepresented backgrounds, especially those from the 'Global South', first-generation learners, and individuals with intersecting disadvantages.

Our findings indicate that achieving equity in global programs requires re-engineering each stage of the process, from recruitment and selection to onboarding, delivery, and follow-up, so that inclusion becomes a structural feature rather than a stated intention. In practical terms, this involves identifying and addressing the systemic barriers that affect less privileged students and partner institutions. For example, visa complexities, which are often overlooked by students from more privileged backgrounds, should be anticipated and supported through institutional measures. Universities can create dedicated mobility and legal assistance units to help students manage immigration requirements, particularly for those from countries with more restrictive entry processes. Funding structures also need to move away from purely merit-based models and incorporate financial support based on demonstrated need. This includes providing budget lines for emergency expenses, accessibility accommodations, and healthcare needs. In addition, equity involves valuing the contributions of host institutions by including them in program design, recognizing their expertise, and compensating their labor fairly. In sum, equity in practice requires deliberate redistribution of resources, responsiveness to varied student circumstances, and recognition of all partners as co-creators in the learning process.

Moreover, the findings of this research highlight that culturally responsive pedagogies must be embedded throughout the entire program lifecycle. Rather than assuming a „neutral‘ curriculum, institutions should co-design learning content with students and host partners to reflect diverse knowledge systems, learning styles, and lived experiences. This includes recognizing the limitations of one-size-fits-all approaches and critically questioning whose perspectives are centered in teaching and learning. Some interviews also revealed that host mentors themselves sometimes felt underprepared for their pedagogical roles, particularly when supervising students from unfamiliar academic cultures or navigating sensitive topics such as race, gender, or postcolonial histories. This highlights the need for mutual capacity-building, not just for students, but also for staff across both sending and host institutions. Workshops on power dynamics, positionality, and ethical engagement should be mandatory components for all stakeholders. These sessions should not be treated as peripheral or optional but integrated into core program design to support reflective, inclusive, and context-aware learning environments.

In short, institutions must move beyond simply providing access and instead work toward structural inclusion, where equity is not treated as an add-on but embedded into the very design and delivery of programs. This requires attention to the underlying systems, relationships, and values that shape educational experiences. Walker and Unterhalter (2007), drawing on the capability approach, argue that educational justice involves more than widening participation. It means creating conditions in which all participants, especially those historically marginalized, can develop their capabilities, exercise agency, and participate meaningfully. From this perspective, equity is not only about who gets in, but about how learning is structured, whose knowledge is valued, and whose voices are heard throughout the program lifecycle.

5.3.2 Digital tools for equity, sustainability, and continuity

The COVID-19 pandemic accelerated the adoption of digital platforms, but their long-term value goes far beyond temporary substitutes for in-person engagement. Digital ecosystems now offer huge opportunities to broaden access and sustain collaboration over time. When properly integrated, these tools can democratize learning, increase program reach, and facilitate cross-border knowledge sharing.

Participants of this research emphasized that digital platforms should be more than passive repositories; they should function as interactive hubs for learning, mentorship, and collaboration. For example, an institution might develop a digital alumni platform where former interns and host mentors can continue project discussions, share resources, and even co-develop proposals. Virtual reflection circles, real-time co-mentoring sessions, and asynchronous feedback channels can all be designed into the program architecture.

Furthermore, digitization supports ecological sustainability. By shifting certain components, like orientation sessions, initial project scoping, or mentorship meetings, into virtual formats, institutions can reduce carbon-intensive travel without sacrificing quality. This approach aligns with global commitments to climate-conscious education. Importantly, institutions must also invest in bridging the digital divide. Many students and host organizations in low-resource contexts lack stable internet access or digital literacy. Therefore, digital tools will need to be matched with investments in infrastructure, training, and tech equity to ensure genuine inclusion. Digital tools are not just a logistical convenience – they are strategic assets for building resilient, equitable, and sustainable global learning communities.

5.3.3 Deep collaboration and co-design: Hosts as equal partners

One of the clearest insights from this research is that relevant and impactful programs require a paradigm shift in how institutions engage with host organizations. Currently, many partnerships function through extractive models, where institutions in the 'Global North' maintain control over design, resources, and academic authority, while host organizations are relegated to implementation roles.

According to participants in this research, the future should center on shared leadership and co-design. This includes involving hosts in setting learning objectives, identifying appropriate community engagement strategies, and jointly evaluating student performance. Institutions should view hosts not as peripheral contributors but as co-educators and knowledge-holders with valuable insight into context, culture, and practice. Tiessen and Kumar (2021) argue that for global learning programs to move beyond extractive models, host partners must be recognized as equal stakeholders in the pedagogical process, contributing their expertise and shaping learning outcomes alongside sending institutions.

Co-design also means creating reciprocal benefit structures. Beyond sending students, universities must ask: What do host organizations gain from this engagement? Are their capacity-building goals being met? For instance, programs could offer professional development workshops for host staff, fund joint research initiatives, or establish co-authored publications and co-branded reports. Embedding co-design requires time, trust, and structural change. Institutions should integrate annual review sessions, develop mutual accountability metrics, and formalize joint steering committees that oversee program evolution. This approach not only enhances ethical engagement but also produces more context-sensitive, relevant, and innovative outcomes.

5.3.4 Embedding systems thinking: Developing adaptive global citizens

Several participants in this research described the challenges of addressing real-world issues that did not fit neatly into disciplinary or institutional categories. Students and mentors often found themselves navigating overlapping concerns such as public health, education, infrastructure, and cultural expectations, revealing the interconnected nature of global challenges. These experiences point to the need for a shift in mindset – one that embraces systems thinking as a practical tool rather than an abstract theory.

Systems thinking helps learners identify interdependencies, anticipate unintended consequences, and engage with complexity rather than avoid it (Senge, 2006; Sterman, 2000). Some host institutions already encourage this approach by having students map stakeholder relationships or analyze how changes in one part of a system influence outcomes elsewhere. However, these practices

remain uneven and often depend on individual initiative rather than institutional design.

To embed systems thinking more consistently, institutions could create shared platforms for exchanging tools, training faculty and mentors, and showcasing effective curricular models. This would ensure that students are not just exposed to complex environments, but are equipped with the conceptual and analytical tools to make sense of them. In doing so, institutions can better prepare students to become adaptive thinkers, capable of responding to the multifaceted, dynamic challenges that define global citizenship.

5.3.5 Measuring what matters: Evaluating long-term impact

Current evaluation systems for international collaborative internships and applied research programs are often limited to short-term metrics, such as academic credits, self-reported satisfaction, or immediate project outputs. While these indicators offer useful data, they are limited in capturing the transformative, long-term value of such programs for students, host communities, and broader systems. Future-oriented institutions must adopt longitudinal evaluation frameworks that examine what happens well beyond the program's end. Key questions should include: Do alumni continue to work in global or community-based contexts? Have their experiences influenced their values, career paths, or civic engagement? Have host organizations benefited in sustained ways, such as improved practices, new partnerships, or increased capacity?

Practically, this means developing tools for post-program tracking, such as periodic alumni surveys, digital storytelling platforms, and community impact assessments conducted in collaboration with host partners. These are challenging to do, but are worth the investment. Institutions might also develop metrics that track cross-cohort learning, such as how one group's insights inform future iterations of a program. Evaluation systems will also need to incorporate qualitative insights, including narratives, reflections, and feedback from host partners. These stories often reveal nuanced outcomes that cannot be captured in numbers alone, such as shifts in mindsets, relationship-building, or the diffusion of new ideas across organizations. In this research, we have heard compelling stories that are not captured in the process of executing and evaluating the programs. By shifting from event-based to impact-based evaluation, institutions demonstrate in a more substantive manner the enduring value of experiential learning and ensure that programs evolve in ways that are meaningful, responsive, and ethical.

6 Conclusions and Recommendations

This research strongly confirms that international collaborative internships and international research programs continue to play an important role in preparing students for a world marked by complexity, uncertainty, and interdependence. These programs bridge academic learning with real-world practice, immersing students in dynamic environments where they encounter diverse perspectives, ethical dilemmas, and systemic challenges. Through these experiences, students, home institutions, and host organizations gain not only technical and professional skills but also develop a deeper understanding of culture, power, and positionality. For host organizations, these engagements bring new energy, resources, and collaborative problem-solving, particularly when built on trust and shared objectives.

However, translating this potential into sustained impact, as shown in the findings of this research, requires attention to the structural, pedagogical, and ethical dimensions of program design. Many students still enter global settings with limited preparation to critically engage with local realities. Host organizations often operate within constrained systems, where collaboration risks becoming extractive rather than mutual. Meanwhile, home institutions delivering these programs increasingly face financial pressures. The current climate of austerity in higher education and development cooperation has led to reduced funding for internationalization, cuts to global programs, and fewer resources for mobility support. These challenges make it more difficult to deliver inclusive, well-supported, and long-term programming.

In this context, engaging multi-stakeholder partnerships, particularly with private sector actors, presents a promising pathway. Enterprises engaged in sustainability, health, digital innovation, or development often share an interest in nurturing future talent and generating socially valuable outcomes. Where interests align, such collaborations can enhance program sustainability, provide funding streams, and introduce students to applied problem-solving in real-world contexts. When thoughtfully structured, these partnerships can complement academic programming without diluting its integrity. For example, private sector partners might support internship placements, contribute to co-designed project briefs, or offer mentorship and career exposure, while curricular decisions and critical content remain guided by academic values.

Maintaining this balance depends on transparent agreements, ethical review processes, and shared principles that foreground educational quality and mutual benefit. It also invites a more dynamic model of learning – one that encourages students to move between sectors, apply intra- and interdisciplinary thinking, and navigate the interface between knowledge and practice with care. As highlighted in the findings of this research, equally important is the way students are prepared before they go abroad. When pre-departure processes go beyond logistics and address deeper questions of ethics, decolonization, and intercultural sensitivity, students are more likely to engage with humility, adaptability, and critical awareness. Region-specific preparation, shaped by returning students, alumni, and local voices, may help bridge classroom learning with local realities. This form of embedded preparation not only reduces cultural friction but also builds student confidence and deepens their capacity to contribute.

On the institutional level, our findings highlight that stronger collaboration between home and host entities creates more coherent, responsive programming. Specifically, co-designed placements, joint supervision, and continuous communication channels ensure that programs evolve with context, rather than following static templates. Hosting organizations play a central role in shaping the focus and structure of engagements, shifting from passive recipients to active co-educators and agenda-setters. Feedback plays a critical role in this ecosystem, as extensively discussed throughout this research. When student reflections and host insights are captured systematicall – and then reintegrated into program planning – opportunities for learning and adjustment multiply. Periodic check-ins, debriefs, and shared evaluation tools create channels for ongoing responsiveness. Over time, this builds trust, sharpens relevance, and fosters innovation across cohorts.

The findings of this research also suggest that sustainability depends on what happens after students return. Structured alumni engagement, digital repositories of reports and reflections, and platforms for continued collaboration extend the life of the program beyond the immediate placement. These elements help consolidate learning, strengthen professional networks, and offer future cohorts' tangible guidance. They also allow institutions to track long-term outcomes and identify areas for growth. Operationally, programs benefit from clarity around roles, timely support, and built-in flexibility, especially in fragile or unpredictable environments.

A recurring issue identified in this research is the importance of co-developing roles and expectations with host partners to ensure timely resource disbursement and prepare students for contingency scenarios. Such collaborative planning not only fosters a shared understanding of stakeholder responsibilities but also strengthens trust and coordination between institutions. Several cases highlighted how these arrangements reduced stress for students, minimized administrative delays, and created smoother operational processes, ultimately improving program effectiveness and overall learning experiences.

Across all dimensions, as shown in the analysis of the findings of this research, ethical engagement and equity form the foundation of meaningful global programming. When programs recognize and address power asymmetries, when they foreground local knowledge, and when students are encouraged to reflect on their own positionality, collaboration becomes more grounded and reciprocal. A few of the students, home institutions, and host organizations shared practical and successful cases that could be leveraged and replicated. These cases used participatory approaches, where the stakeholders define priorities and shape outcomes, offering a route toward more lasting and strategic partnerships. The rise of digital tools also opens up new possibilities. Virtual platforms expand access, enhance cross-border dialogue, and support hybrid models of learning that are both scalable and inclusive. These tools, when used intentionally, help democratize knowledge sharing and sustain engagement across time zones and geographies.

As shown in this research, some programs are highly successful even though limited in scope and number. What this research sees as widely missing is the collective institutional knowledge sharing and learning from the experiences of the different programs. Such an initiative does not necessarily need to be started from scratch; there are similar platforms that could potentially integrate into and take up the lessons and facilitate improvements. This is important for looking ahead where the next generation of global education appears to be shaped by two parallel forces: the need to do more with fewer resources, and the growing capacity of students to think systemically, act collaboratively, and engage ethically. Programs that respond to these realities by embracing innovation, building equitable partnerships, and protecting academic independence are more likely to thrive – and to make a lasting difference. By aligning institutional objectives with social responsibility and global solidarity and sharing and deepening lessons, collaborative internships and applied research continue to serve as catalysts for individual growth and collective change.

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Annex: Home and host institutions of FGD participants

A total of 42 students – from Bachelor's, Master's, and PhD programs – participated in the focus groups. These students represented a wide range of home institutions, including:

- CDE: Center for Development and Environment (University of Bern)
- Cepagro: Center for the Study and Promotion of Group Agriculture
- Djala University, Sierra Leone
- ETH Zurich: Swiss Federal Institute of Technology
- HAFL: School of Agriculture, Forestry and Food Sciences (part of the Berne University of Applied Sciences)
- Hankuk university of foreign studies, South Korea
- ISTOM: Institute for International Agricultural Development, France
- Kenyatta University (written feedback)
- New York University
- UZH: University of Zurich
- Université de Liège
- University of Burkina Faso
- University of the Gambia
- University of Nigeria
- University of Sierra Leone
- ZALF: Leibniz Center for Agricultural Landscape Research
- Zamorano: Pan American School of Agriculture
- ZHAW: Zurich University of Applied Sciences

Students completed a collaborative practical work assignment with the following host institutions:

- Burrus Development Group
- Care International
- Centre Suisse des Recherches Scientifiques en Côte d'Ivoire
- Félix Houphouët-Boigny University, Abidjan
- GIZ: Deutsche Gesellschaft für Internationale Zusammenarbeit
- HAFL: School of Agriculture, Forestry and Food Sciences (part of the Bern University of Applied Sciences)
- ILRI: International Livestock Research Institute
- PHECAD: Pwe Hla Environment Conservation and Development Organization
- RECOFTC Phnom Penh
- Sevea Consulting
- Swisscontact
- Polytechnic University of Valencia
- University of Bern
- University of Ghana
- University of Gondar
- University of Pisa
- Wakami Guatemala

SCNAT – Network of knowledge for the benefit of society

The **Swiss Academy of Sciences (SCNAT)** works at regional, national and international level for the future of science and society. It strengthens the awareness for the sciences as a central pillar of cultural and economic development. The breadth of its support makes it a representative partner for politics. The SCNAT links the sciences, provides expertise, promotes the dialogue between science and society, identifies and evaluates scientific developments and lays the foundation for the next generation of natural scientists. It is part of the association of the Swiss Academies of Arts and Sciences.

The **Swiss Alliance for Global Research Partnerships** is a coalition of leading Swiss institutions involved in research and teaching collaborations with partners around the world. Together we strengthen global collaboration to advance sciences for sustainable and equitable development. Before June 2025, the Swiss Alliance for Global Research Partnerships (GRP-Alliance) was called Swiss Commission for Research Partnerships with Developing Countries (KFPE).