Developing Intercultural Competence Through Virtual Collaboration: Insights from a Morocco-U.S. COIL Project

تنمية الكفاءة بين الثقافات عبر التعاون الافتراضي: رؤى مستقاة من مشروع(COIL) للتعلم الدولي التعاوني عبر الإنترنت بين المغرب والولايات المتحدة

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Abstract

Intercultural competence development has become important in higher education, particularly in international online learning settings. The present study aims to examine the impact of the Collaborative Online International Learning (COIL) programme, which involves students from Morocco and the United States, on participants' intercultural competence development. The study employs a convergent mixed-methods design. Quantitative data are collected through questionnaires, while qualitative data are derived from the open-ended questions and observation of participants' interactions in a private Facebook group. Deardorff's and Byram's conceptual frameworks are used as the main analytical lenses in the study. The findings indicate that the virtual interaction, characterised by collaboration and cultural exchange, led to the development of participants' intercultural knowledge, skills, and attitudes. These findings offer empirical evidence for COIL as an effective method for fostering intercultural competence in higher education.

Keywords: COIL, E-learning, intercultural competence, Knowledge, Skills, Attitudes, virtual exchange.

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ملخص:

أضحت تنمية الكفاءة بين الثقافات أمراً بالغ الأهمية في قطاع التعليم العالي، ولا سيما في بيئات التعلم الدولي عبر الإنترنت. وتهدف الدراسة الحالية إلى بحث أثر برنامج "التعلم الدولي التعاوني عبر الإنترنت" (COIL)، الذي يضم طلاباً من المغرب والولايات المتحدة، في تنمية الكفاءة بين الثقافات لدى المشاركين. وتوظف الدراسة تصميماً متقارباً للأساليب المختلطة؛ حيث جُمعت البيانات الكمية من خلال الاستبيانات، في حين استُمدت البيانات النوعية من الأسئلة المفتوحة وملاحظة تفاعلات المشاركين داخل مجموعة خاصة على منصة "فيسبوك". واستُخدمت الأطر المفاهيمية لكل من "ديردورف" (Deardorff) و"بايرام" (Byram) كمناظير تحليلية رئيسة في الدراسة. وتشير النتائج إلى أن التفاعل الافتراضي، الذي يتسم بالتعاون والتبادل الثقافي، قد أدى إلى تطوير المعارف، والمهارات، والمواقف الخاصة بالثقافات المختلفة لدى المشاركين. وتقدم هذه النتائج أدلة تجريبية على فاعلية برنامج (COIL) كمنهج لتعزيز الكفاءة بين الثقافات في التعليم العالي.

الكلمات المفتاحية: التعلم الدولي التعاوني عبر الإنترنت (COIL)، التعلم الإلكتروني، الكفاءة بين الثقافات، المعارف، المهارات، المواقف، التبادل الافتراضي.

1. Introduction

In today's interconnected world, the ability to navigate cultural differences has become fundamental to success in education, communication, and professional life. Higher education institutions need to equip students with intercultural competence, the knowledge, skills, and attitudes necessary to engage effectively and respectfully with individuals from diverse cultural backgrounds. Traditionally, this goal has been addressed through physical mobility programmes such as study abroad or international exchange. However, access to these opportunities remains limited for many students due to financial, institutional, or logistical constraints.

Recent advances in digital technology have enabled new forms of virtual international collaboration, offering alternatives to physical mobility. Collaborative Online International Learning (COIL) has emerged as a highly effective model for integrating intercultural learning into academic courses. COIL connects faculty and students from institutions in different countries to engage in joint learning activities (Michelle Esche, 2018). These interactions are designed not only to address academic content but also to foster cross-cultural dialogue and global understanding. As institutions seek scalable, inclusive, and pedagogically sound approaches to internationalisation, COIL offers a promising option. It enables students to develop global perspectives within their home institutions while gaining direct experience of cultural diversity in online environments. Integrating COIL into higher education curricula

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addresses two key demands: the need for internationalisation at home and the growing importance of digital fluency and cross-cultural collaboration in professional life.

In this study, we examine the impact of a Morocco-U.S. COIL project, implemented between the École Nationale des Sciences Appliquées (ENSA), Mohammed I University in Oujda, and SUNY Rockland Community College in New York, on the development of students' intercultural competence. The core objective of this study is to investigate how participation in this COIL project influenced students' intercultural competence, with particular attention to the three foundational dimensions defined by Deardorff (2006): knowledge (e.g., cultural awareness, norms, values), skills (e.g., adaptability, communication, critical thinking), and attitudes (e.g., openness, curiosity, respect). To guide this investigation, the study is framed around the following research question: *How does participation in a Morocco–U.S. COIL project affect students' intercultural competence, particularly their knowledge, skills, and attitudes?*

Through this study, we aim to contribute empirical evidence to the growing body of research on COIL's pedagogical impact. By focusing on the experiences of Moroccan and American students collaborating online, we offer insights into how intercultural learning develops in digitally mediated environments and how institutions can use COIL as a transformative tool for preparing globally competent graduates.

2. Theoretical Framework

2.1. Intercultural Competence

In the globalised educational context, students are increasingly required to communicate and collaborate across cultural boundaries. The concept of intercultural competence has emerged as a central construct for preparing learners to function effectively in multicultural contexts, whether in classrooms, workplaces, or international partnerships. Many research attempts have been made to understand the concept of intercultural competence, particularly the process-oriented framework of Darla Deardorff (2006) and the communicative model of Michael Byram (1997).

Deardorff (2004) defines intercultural competence as "the ability to communicate effectively and appropriately in intercultural situations based upon one's intercultural knowledge, skills, and attitudes" (as cited in Deardorff 2006, p. 247). Her framework is circular and process-oriented, emphasising that intercultural competence is not a fixed end-state but a lifelong developmental process. Deardorff identifies knowledge, skills, and attitudes as the three key internal dimensions that underpin intercultural growth and directly influence external outcomes, such as effective and appropriate behaviour and communication in intercultural settings. Knowledge encompasses cultural self-awareness, an understanding of worldviews, and familiarity with the values, practices, and norms of other cultures. Skills involve the ability to observe, listen, analyse, interpret, evaluate, and relate effectively across cultures. Finally, attitudes reflect openness to difference, curiosity, respect, and a willingness to suspend judgement and tolerate ambiguity during intercultural interactions. Together, these dimensions

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form the foundation for effective and appropriate engagement, particularly in virtual and multicultural learning environments.

Byram's (1997) model, while similarly grounded in knowledge, skills, and attitudes, adds a strong communicative focus. He defines intercultural competence as "knowledge of others; knowledge of self; skills to interpret and relate; skills to discover and/or to interact; valuing others' values, beliefs, and behaviors; and relativizing one's self" (p. 34). He outlines five key elements: attitudes such as curiosity and openness; knowledge of social groups and their products and practices; skills for interpreting and relating cultural materials; skills for discovery and interaction; and critical cultural awareness. His model is highly relevant in educational settings because of its emphasis on learners becoming intercultural speakers, individuals who can mediate between different cultural frameworks. His approach encourages learners not only to understand cultures but also to critique them and reflect on their cultural assumptions. This critical perspective aligns well with the objectives of Collaborative Online International Learning (COIL), where students must actively engage, reflect, and communicate within a multicultural context.

Both Deardorff's and Byram's models agree that intercultural competence is not about mastering facts about other cultures. Instead, it is about developing dispositions and cognitive tools that enable students to function effectively in culturally diverse contexts. For this reason, they provide an ideal theoretical foundation for analysing how students' knowledge, skills, and attitudes evolve through participation in virtual intercultural learning experiences such as COIL.

2.2. COIL and Intercultural Learning

Collaborative Online International Learning (COIL) is an innovative pedagogical model that brings together university students and instructors from different countries to engage in collaborative learning within shared academic courses (Rubin & Guth, 2015). Developed in the early 2000s at the State University of New York (SUNY) COIL Center, the model was designed to expand access to global learning without requiring physical mobility. At its core, COIL emphasises team-taught, project-based interaction between international peers, with the dual aim to advance academic content and promote intercultural engagement.

Unlike traditional online learning, COIL is collaborative, cross-cultural, and co-designed. Faculty from partnering institutions collaborate to design course modules that integrate local and global perspectives (Michelle Esche, 2018). Students from two or more institutions are grouped into mixed teams and assigned collaborative tasks, such as co-authoring reports, comparing cultural frameworks, or delivering joint presentations. Communication typically takes place through online platforms: email, forums, video calls, and shared workspaces, which allow students to work both asynchronously and synchronously despite geographic distance.

The unique contribution of COIL to intercultural learning lies in its structure. It fosters purposeful intercultural interaction within a carefully designed pedagogical framework. Students are not merely exposed to diversity passively; rather, they engage with peers from

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other cultures in meaningful ways. These interactions naturally foster the development of intercultural skills such as active listening, empathy, negotiation, and perspective-taking. Moreover, the virtual context requires participants to adjust their communication across language barriers, time zones, and cultural differences.

There is growing evidence that COIL fosters intercultural development, even among students who have never travelled abroad. Research by O'Dowd (2013) shows that students who participate in COIL report greater intercultural awareness, improved digital literacy, and greater confidence when interacting with diverse others. These outcomes are particularly meaningful for students in underrepresented regions or with limited access to traditional international exchange programmes (Hackett et al., 2023).

In our study, the COIL collaboration between Moroccan and American students provided a unique setting to observe intercultural learning in action. Students from Mohammed I University and SUNY Rockland engaged in shared coursework across three modules covering topics such as communication styles, marketing, and engineering across cultures. Throughout the programme, students worked together virtually to complete joint assignments, share cultural content (e.g., food, traditions, histories), and reflect on their experiences.

The structure of this COIL experience aligns closely with the dimensions of intercultural competence outlined in Deardorff's and Byram's frameworks. For example:

- Knowledge was developed through exposure to new cultural concepts and values, and through comparison of local and global practices.
- Skills were enhanced by navigating digital collaboration, resolving misunderstandings, and learning to communicate clearly and respectfully with people from different cultures.
- Attitudes evolved as students learned to appreciate different viewpoints, tolerate ambiguity, and show curiosity about unfamiliar cultural content.

COIL's impact extends beyond content knowledge. It creates space for identity negotiation, empathy-building, and critical reflection. In this way, the COIL model is not merely a delivery mechanism for global content but a transformational learning process that fosters the competencies higher education seeks to instil in globally engaged citizens.

3. Methodology

3.1. Research Design

To investigate how participation in a Collaborative Online International Learning (COIL) project affects students' intercultural competence, this study employed a mixed-methods convergent parallel design. This approach was chosen to enable a comprehensive analysis that integrates numerical patterns and qualitative insights. As Creswell and Plano Clark (2011)

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explain, a convergent parallel design enables researchers to collect quantitative and qualitative data simultaneously, analyse them independently, and then compare or merge the results to draw more holistic conclusions.

The rationale for using a mixed-methods approach lies in the complexity of the research question. Intercultural competence is a multidimensional construct encompassing knowledge, skills, and attitudes that cannot be fully understood through a single method. Quantitative data, gathered via structured questionnaires, provided measurable indicators of self-perceived development across the three elements. Meanwhile, qualitative data, obtained through observational analysis of virtual interactions and open-ended responses from the questionnaire, provided depth by capturing participants' lived experiences, relational dynamics, and reflective behaviours.

3.2. Participants and Context

The programme involved 176 undergraduate students from the École Nationale des Sciences Appliquées (ENSA), Mohammed I University, Oujda, Morocco, and SUNY Rockland Community College (RCC), Suffern, New York, USA, participating in the COIL programme. The project was structured into three thematic modules, each co-developed and co-taught by instructors from both institutions:

- Module 1: *The Influence of Culture on Communication Styles in Engineering and Management*
- Module 2: *Cross-Cultural Communication in Engineering and Marketing*
- Module 3: *Going Global from Within: Cultural Styles and Strategies*

Each module engaged students in collaborative assignments, discussion forums, and video exchanges on cultural topics relevant to the course content. All interactions took place virtually, primarily via a private Facebook group created for this project. This platform enabled students to share media, complete tasks, comment on posts, and interact asynchronously across time zones.

Of the 176 participants, 116 were Moroccan and 60 were American. All Moroccan students spoke Arabic and had English as a foreign language, while all American students were native English speakers. Participants ranged in age from 22 to 26 years, and most were in their fourth year of higher education in engineering or business-related programmes. Importantly, 78.6% of students had no significant intercultural experience before this project, making their participation in COIL their first intercultural collaborative engagement. To ensure representativeness, the study sample included 60 respondents (34% of the total population), with proportional representation from both institutions: 40 Moroccan and 20 American students. Gender balance was also observed, with an equal distribution of male and female participants.

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3.3. Data Collection

The data collection process was designed to capture both quantitative metrics of intercultural competence and qualitative indicators of intercultural engagement and reflection. For the quantitative data, a structured questionnaire was developed using validated intercultural competence frameworks (Deardorff, 2006; Byram, 1997). It comprised three sections, each targeting one component of intercultural competence:

- Knowledge: understanding of cultural concepts, norms, and contrasts.
- Skills: communication, adaptability, and problem-solving across cultures.
- Attitudes: openness, curiosity, and respect toward difference.

Each section contained six items rated on a 6-point Likert scale (0 = Not at all true to 5 = Completely true). The questionnaire also included a pre- and post-self-assessment of English language proficiency, asking participants to rate their communicative ability at the beginning and end of the COIL programme. The survey was administered online via Google Forms, enabling efficient and anonymous data collection. Both Moroccan and American students completed the same version of the questionnaire.

In parallel, qualitative data were gathered from two sources: first, open-ended questions in the questionnaire invited participants to reflect on what they learned about the other culture, their own culture, and their experience of intercultural interaction. Second, we observed student activity within the private COIL Facebook group. We conducted non-intrusive monitoring of posts, comments, shared images, videos, and reactions over the course of each module, and we didn't interact or interfere during the observation period. Furthermore, we took notes on the types of content shared, the tone of interactions, themes of discussion, and evidence of cultural learning or misunderstanding. Particular attention was paid to instances of cultural self-expression, empathy, humour, comparison, and negotiation of meaning.

4. Results

The results are organised around the three core components of intercultural competence: knowledge, skills, and attitudes, as well as self-assessed language proficiency. In this section, quantitative results are followed by qualitative insights drawn from student reflections and observed interactions in the COIL Facebook group.

4.1. Quantitative Findings

4.1.1. Intercultural Knowledge

Participants reported notable growth in their understanding of both their own and their peers' cultural norms, values, and practices. When asked whether they knew what culture is and could identify its components (e.g., norms, taboos, and communication styles), 93.8% of students rated themselves at level 3 or above on a 6-point Likert scale (0-5), indicating moderate to high self-assessed cultural awareness.

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Similarly, 81.3% of students reported being able to compare aspects of their own culture with those of their COIL peers. Moroccan students, in particular, reported greater awareness of how cultural dimensions such as time orientation, hierarchy, and directness shape communication behaviour. American students, meanwhile, demonstrated a stronger understanding of non-verbal communication and collectivist values commonly observed in Moroccan contexts. Notably, 87.5% of participants reported recognising signs of culture shock and feeling better equipped with strategies to navigate intercultural discomfort, a marker of growing intercultural knowledge and preparedness.

4.1.2. Intercultural Attitudes

Across all attitude-related items, the results indicate strong openness, tolerance, and willingness to engage with difference. When asked whether they were willing to interact with members of the counterpart culture, 68.8% rated themselves at level 4, and an additional 18.8% at level 5, the highest on the scale.

Regarding tolerance of cultural differences and adapting their behaviour to communicate appropriately, a combined 93.8% of participants selected level 4 or 5. This suggests that students developed not only awareness of cultural differences but also a positive orientation towards dealing with them constructively.

Likewise, students expressed strong curiosity and interest in learning from their COIL peers. Approximately 75% of respondents rated themselves at level 4 or higher in showing interest in new cultural aspects and values. These results indicate that the COIL project played an important role in fostering intercultural openness, a foundational attitude in both Deardorff's and Byram's frameworks.

4.1.3. Intercultural Skills

The self-assessed development of intercultural communication skills also showed positive outcomes. Among the six key skill-related items, the majority of participants (75%) rated themselves at level 4 or higher in competencies such as listening to people from other cultures, seeking cultural information, interacting with culturally different individuals, and critically analysing cultural perspectives. Furthermore, 56.3% of participants rated themselves as proficient in managing communication breakdowns and adapting to new cultural environments. These figures suggest that, as a result of the COIL experience, students felt more confident navigating complex intercultural conversations, a key indicator of competence in digital collaboration settings.

4.1.4. Language Proficiency

As a secondary outcome, the study examined changes in English language proficiency, particularly among Moroccan students. At the start of the COIL project, only 6.2% of Moroccan participants described themselves as fluent in English, while 43.8% reported very limited communicative ability. By the end of the programme, 81.3% of students reported they could

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now communicate effectively on everyday topics and meet most social needs, and 12.5% considered themselves fluent. Although not the primary focus of the study, these results demonstrate that intercultural engagement via COIL may also support language development, especially for non-native speakers who gain exposure through meaningful communication tasks. American students also noted incidental acquisition of basic Arabic phrases and greater awareness of linguistic and sociolinguistic differences.

4.2. Qualitative Insights

4.2.1. Cultural Sharing and Representation

Students from both institutions actively participated in cultural exchange by posting photos, videos, and written notes about their traditions, food, values, and lifestyles. For instance, Moroccan students shared photos of traditional dishes such as *tagine*, *couscous*, and *mint tea*, accompanied by explanations of the preparation process and cultural symbolism. A Moroccan student posted an image of a *royal Moroccan feast* served to King Hassan II and Queen Elizabeth, which drew admiration and curiosity from American peers. Similarly, American students responded by sharing images of Thanksgiving meals, urban landmarks such as the New York skyline, and snapshots of daily life in their communities.

Another post featured a student trying Moroccan tea for the first time, sparking a conversation about taste, hospitality, and cross-cultural etiquette. Beyond food, students also shared historical and cultural stories. Moroccan students posted about Mustapha Ezzemouri (Estevanico), a Moroccan explorer in North America, and Morocco's early recognition of U.S. independence. These posts drew comments such as "I didn't know this! Fascinating history!" from American students, reflecting engagement and respect.

4.2.2. Empathy, Humor, and Social Connection

Many student interactions featured empathy and humour, two markers of interpersonal comfort and intercultural rapport. In one video, a Moroccan student concluded with: "I'm so excited to know about you guys! What type of music do you like?" This casual, inviting tone set the stage for informal bonding. Students laughed at language mix-ups, cultural misunderstandings, and shared experiences. Comments such as "Beautiful colours and dresses!" in response to Moroccan traditional attire, or "Looks delicious, wish we had that here!" on food posts, reflected mutual appreciation and curiosity. Some interactions were more reflective. For example, one American student commented, "I didn't realise how similar our family traditions were. It's eye-opening!" while a Moroccan participant wrote, "I was afraid of being judged, but I felt welcomed and respected."

4.2.3. Critical Reflection and Learning

Students were also asked to reflect on what they learned. Several responses demonstrated deeper cultural self-awareness and perspective-taking. A Moroccan participant commented, "This project helped me realise that I had assumptions about Americans that weren't fair. I saw

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how different each student was." An American participant said, "Now, I understand that communication styles are shaped by culture and sometimes what feels rude is just unfamiliar." A third participant added, "I've learned to pause before judging and ask more questions instead." These statements suggest that the COIL project created opportunities for intercultural humility, a key disposition in Deardorff's framework.

4.2.4. Collaborative Tasks and Practical Exchange

Beyond dialogue, students completed joint tasks that required collaboration across cultural lines. One assignment involved comparing résumé formats in Morocco and the US. Students discussed what information is appropriate to include, how job interviews differ, and which questions are considered acceptable or taboo. A Moroccan student asked, "Are there any questions that should not be asked in a job interview in the U.S.?" This question sparked a meaningful cross-cultural discussion. These practical exchanges not only increased cultural awareness but also simulated real-world global teamwork, reinforcing students' ability to adapt, negotiate, and collaborate in diverse settings.

Together, the quantitative and qualitative results indicate that the COIL project led to measurable and observable improvements in students' intercultural knowledge, attitudes, and skills. The experience helped students move beyond superficial cultural exposure towards more meaningful interactions grounded in empathy, curiosity, and shared purpose. Gains in language proficiency and digital collaboration further enhanced the project's educational value. Overall, the COIL initiative created a productive space for intercultural learning in a virtual environment that is accessible, inclusive, and transformative.

5. Discussion

Drawing on the quantitative and qualitative results, the discussion examines how intercultural learning occurred and how the outcomes align with established theoretical frameworks

5.1. How and Why Intercultural Competence Improved Through COIL

The study reveals a clear positive trajectory in the development of students' intercultural competence following participation in the COIL experience. Quantitative results show consistent improvement across the three dimensions: knowledge, skills and attitudes. These improvements were reflected in qualitative insights, with students demonstrating cultural awareness, mutual appreciation and meaningful cross-cultural dialogue. The main driver of this growth appears to be the structured, purposeful intercultural interaction that COIL fosters. Unlike casual cross-cultural contact, the COIL model is deliberately designed to encourage students to communicate, collaborate, and reflect within culturally mixed teams. This task-based collaboration, together with ongoing informal exchanges, enabled students to move beyond stereotypes and engage with real people in authentic educational contexts.

In short, students learned about culture by working with someone from another culture. This co-constructed meaning and discovery through joint assignments and discussions accelerated

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the acquisition of cultural knowledge, strengthened communication skills, and promoted adaptive and open-minded attitudes. The process-oriented structure of the COIL modules also enabled students to engage with cultural difference gradually and iteratively, leading to deeper understanding over time.

5.2. Alignment with Deardorff's and Byram's Models

The results of this study strongly support the theoretical assumptions underpinning Deardorff's (2006) and Byram's (1997) models of intercultural competence. Both frameworks emphasise the integration of internal processes (knowledge, skills, attitudes) and external outcomes (effective and appropriate interaction), and both highlight reflection, curiosity, and empathy as critical developmental components.

Deardorff's model, which views intercultural competence as an evolving process rather than a fixed outcome, is particularly well suited to the COIL context. Students in this project did not simply acquire static cultural facts; rather, they engaged in an ongoing cycle of interaction, observation, self-assessment, and adaptation. They demonstrated increasing cultural self-awareness (knowledge), the ability to manage communication across cultural lines (skills), and an open orientation towards difference (attitudes).

Byram's model adds a communicative dimension to this process by highlighting the learner's role as an "intercultural speaker" capable of mediating between perspectives. Students in this study exemplified these competencies by comparing cultural assumptions (e.g., résumé formats, dress norms, communication styles), interpreting cultural symbols (e.g., food, architecture), and demonstrating critical awareness of their own cultural lenses. The discussions of etiquette, job interview norms, and traditional customs illustrate Byram's concept of "skills of discovery and interaction", which develop when learners actively seek to understand unfamiliar practices and relate them to their own experience. The Facebook platform also enabled moments of critical cultural awareness, as students reflected not only on difference but also on the social implications of those differences. For example, comparing the U.S. and Moroccan educational or labour systems allowed students to think beyond individual behaviour and examine broader cultural narratives and institutional values.

5.3. Role of Virtual Interaction in Fostering Empathy and Understanding

A striking insight from this study is the effectiveness of virtual spaces in fostering authentic, emotionally resonant intercultural relationships. Despite not meeting in person, students expressed genuine curiosity, appreciation, and empathy towards one another. Shared photos, videos, and casual comments helped humanise their peers across borders and created a sense of emotional presence, which is key to any learning relationship.

Students bonded through humour, storytelling, mutual admiration, and even light-hearted comparisons. These interactions provided low-stakes opportunities to explore cultural differences without fear of failure. Importantly, these moments of informal engagement often became catalysts for deeper reflection, such as when a Moroccan student explained the cultural

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value of eating with one's hands, or when an American student shared their surprise at Morocco's early diplomatic ties with the U.S.

The asynchronous nature of communication allowed students to process and respond thoughtfully, which may have reduced anxiety about miscommunication. Meanwhile, the collaborative assignments simulated real-world intercultural teamwork, building confidence in digital collaboration and intercultural adaptability, skills that are highly transferable to professional settings. The findings of this study suggest that COIL can play a vital role in equipping students with intercultural competence by developing the knowledge, skills, and attitudes necessary to engage effectively and respectfully with individuals from diverse cultural backgrounds.

5.5. Limitations

Despite the encouraging outcomes, this study is not without limitations. First, much of the data is based on self-report, which may be influenced by social desirability or students' subjective perceptions of growth. Second, the language of communication (English) may have shaped participation patterns, especially for Moroccan students with limited proficiency at the outset. While their gains in language competence were notable, some aspects of communication or expression may have been constrained by linguistic barriers. Third, the cultural content exchanged was sometimes surface-level (e.g., food, holidays), and while these topics are valuable for engagement, they may not always foster deeper structural understanding of culture. Finally, the sample size, while proportional, remains relatively small and specific to two institutions. Broader studies across multiple COIL partnerships could offer more generalisable insights.

6. Conclusion and Implications

This study provides empirical evidence that Collaborative Online International Learning (COIL) is an effective strategy for enhancing intercultural competence in higher education. Through a Morocco–U.S. virtual exchange featuring structured collaboration, cultural sharing, and reflective engagement, students made meaningful gains in intercultural knowledge, skills, and attitudes. These gains align closely with the frameworks proposed by Deardorff (2006) and Byram (1997), who conceptualise intercultural competence as a multidimensional process grounded in self-awareness, curiosity, adaptability, and communication.

A key contribution of this study is demonstrating that virtual interaction, when guided by purposeful pedagogical design, can foster deep cultural learning. Students not only gained exposure to cultural differences but also engaged critically and empathetically with their peers. The experience enabled participants to compare norms, navigate miscommunication, build rapport, and reflect on their own assumptions. These competencies are essential for academic, professional, and civic life in a globalised world. Importantly, COIL offers an equitable alternative to traditional study abroad programmes, particularly for students who lack the resources or opportunity to participate in physical mobility. Through COIL, participants accessed transformative learning without leaving their campuses. This makes COIL a low-cost,

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high-impact strategy that supports inclusive internationalisation in both well-resourced and under-resourced institutions.

The success of this Morocco–U.S. COIL initiative offers valuable insights for educators, institutions, and policymakers seeking to embed intercultural competence in higher education. Practical applications include integrating COIL modules into existing curricula to enrich disciplinary learning, equipping instructors with the skills to co-design and facilitate online intercultural dialogue, and preparing students through targeted orientations on cultural awareness and digital communication norms. Additionally, incorporating structured assessment tools such as the Intercultural Development Inventory (IDI) or Deardorff's framework can enhance the evaluation of intercultural learning outcomes. Future research should explore the long-term effects of COIL on students' intercultural behaviours, examine faculty experiences, and investigate the potential of peer-to-peer mentorship in virtual exchange settings.

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