Cultural Affective Factors and Group Dynamics in COIL Projects: How Much Autonomy Is Too Much Autonomy?

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Abstract
This study examined the collaboration and group dynamics within international cohorts researching the United Nations' Sustainable Development Goals in a COIL (collaborative online international learning) environment. It culminated in a final recorded video project in the format of a multi-participant screencast-style presentation. Cultural concepts of politeness, leadership, turn-taking, and perceived notions of correct behavior naturally affect interactions in group communicative situations. This study aimed to develop a greater understanding of the interplay between stereotypically shy Japanese behavior and traditionally assertive Taiwanese communicative norms. What can we do as language educators to promote effective group work and intercultural communication, and what is the best balance between scaffolded content and student-centered autonomy? This project was the fifth iteration of an ongoing COIL project between Taiwan and Japan. Building on past successes, shared materials on the Google platform were used as an effective method of working between international groups in asynchronous interactions. Additionally, participants used LINE OpenChat groups for direct communication, allowing for a safe and moderated space which maximized privacy and transparency. Students utilized their choice of online platforms for live meetings, giving each cohort autonomy within their learning environment. Our methodology for evaluating the efficacy of group interactions used student surveys and the analysis of recordings and transcripts of group meetings. Consent and anonymization of data protected student privacy and confidentiality. This study should be of interest to educators undertaking COIL projects and/or enabling their students to improve communication skills in international contexts.

Keywords: COIL, Cross-Cultural Communication, Group Dynamics, International Collaboration

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Introduction

Collaborative Online International Learning (COIL) has become a trendy and crucial approach in bridging cultural divides and fostering global citizenship. By integrating academic tasks with intercultural collaboration, COIL projects offer students opportunities to engage in meaningful interactions while addressing global issues, such as the United Nations Sustainable Development Goals (SDGs). However, the success of such initiatives hinges on navigating the complexities of intercultural communication and group dynamics.

This study focuses on the fourth iteration of a COIL project between Kyoto University of Foreign Studies (KUFS) in Japan and National Pingtung University (NPTU) in Taiwan. Over a four-week period, students worked in 20 international groups to research and present on SDG-related topics through collaborative video projects. These interactions revealed key challenges, including differing cultural norms in leadership, turn-taking, and communicative politeness. Groups involved in the project examined the SDGs within the context of both synchronous and asynchronous virtual interaction. The project's structure, culminating in a multi-participant, screencast-style video presentation, presented unique challenges and learning opportunities, particularly as participants navigated diverse cultural communicative norms. In group settings, cultural concepts of politeness, leadership, turn-taking, and behavioral norms were hypothesized to influence the ways in which students would interpret and respond to each other.

Our research seeks to address two critical questions:

1. How do cultural affective factors, such as politeness, leadership, and turn-taking, influence group dynamics in COIL projects?
2. How can educators balance scaffolded guidance with student autonomy to optimize intercultural collaboration and communication?

By examining these questions, we aim to provide actionable insights for educators and policymakers seeking to enhance the effectiveness of COIL projects and equip students with essential skills for global engagement.

Literature Review

Intercultural collaboration in educational settings, especially within COIL projects, has garnered significant attention due to its ability to bridge cultural divides and develop students' global awareness. This section explores key themes in existing literature related to cross-cultural communication styles, leadership dynamics in international collaboration, high-context versus low-context communication, and the pedagogical balance between scaffolding and autonomy.

High-Context vs. Low-Context Communication Styles

One of the foundational frameworks for understanding intercultural communication is the distinction between high-context and low-context communication, as introduced by Edward Hall (1976). High-context cultures, such as Japan, rely heavily on implicit communication, shared cultural knowledge, and non-verbal cues. Silence and subtlety are essential in maintaining group harmony, as direct disagreement is often avoided (Gudykunst & Ting-Toomey, 1988). In group settings, this can lead to misinterpretations by individuals from low-context cultures, who may perceive silence as disengagement rather than respect. For

instance, Japanese students may avoid direct disagreement by softening their language or relying on pauses, which can be interpreted as a sign of thoughtfulness or respect.

In contrast, Taiwanese communication, while historically influenced by high-context norms, incorporates notable elements of low-context communication, particularly among younger generations. Taiwanese students are often more direct in expressing opinions or offering feedback, especially in academic or professional contexts influenced by Western norms and educational style (Curtis & Sussex, 2018; Wu & Kawamura, 2011). This dual influence creates a unique blend of communicative influences whereby Taiwanese students balance politeness and assertiveness depending on the context or task.

Taiwanese communicators are often more direct and willing to express dissent than their Japanese counterparts, particularly in academic or professional contexts. Ting-Toomey and Chung's (2005) intercultural communication competence framework underscores the need for individuals in multicultural settings to recognize and adapt to these differing styles to minimize conflict and enhance collaboration.

These distinctions are particularly relevant in COIL projects, where implicit assumptions about communication can affect group dynamics, lead to misunderstandings, or create friction. Educators must equip students with the tools to interpret and respond to both verbal and non-verbal cues effectively. Understanding and adapting to these communication styles is critical for fostering effective collaboration in both academic and professional settings.

Intercultural Leadership Dynamics

Leadership in intercultural contexts involves navigating differing cultural expectations regarding authority, collaboration, and decision-making. According to Hofstede's (1980) cultural dimensions theory, hierarchical or power-distance orientations influence how leadership roles are assumed and perceived. In high-power-distance cultures, leadership is often authoritative and positional, while low-power-distance cultures favor egalitarian and rotational leadership styles.

In East Asia, collectivism adds another dimension to leadership practices. Japanese group dynamics often emphasize shared decision-making and role rotation, aligning with Hofstede's concept of high collectivism. Leadership is viewed as a collaborative responsibility rather than an individual role (Matsumoto, 1994). Taiwanese leadership, while also collectivist, tends to integrate assertiveness and proactive task delegation, reflective of lower power-distance influences in younger generations (Wu & Kawamura, 2011).

Studies on intercultural leadership suggest that misaligned expectations can hinder group cohesion and productivity. Thomas and Peterson (2015) emphasize the need for cultural intelligence (CQ) in navigating such differences, recommending structured interventions like role definitions and reflective discussions to harmonize team dynamics. In COIL settings, fostering intercultural leadership can cultivate essential global competencies among students, such as adaptability and empathy.

Pedagogical Balance: Scaffolding vs. Autonomy

The interplay between teacher-led scaffolding and student autonomy has been widely studied in collaborative learning contexts. Vygotsky's (1978) concept of the Zone of Proximal

Development (ZPD) highlights the importance of guided support to help learners achieve tasks beyond their independent capabilities. In intercultural settings, scaffolding provides students with structured strategies for communication, such as frameworks for active listening, turn-taking, and conflict resolution (Chen & Starosta, 1997).

However, excessive scaffolding can inhibit the development of autonomy, which is critical for fostering adaptability and confidence in global contexts. Deci and Ryan's (1985) Self-Determination Theory emphasizes the importance of autonomy in motivating learners to engage deeply and take ownership of their learning. In COIL projects, this balance is particularly crucial as students navigate linguistic and cultural barriers.

Wu and Kawamura (2011) suggest a phased approach, where initial scaffolding transitions to greater autonomy as students gain confidence and competence. This allows students to internalize structured skills while developing the independence needed for authentic intercultural collaboration.

Cultural Stereotypes and Their Impact

Cultural stereotypes, though often reductive, play a significant role in shaping perceptions and behaviors in intercultural settings. Stereotypes of Japanese communication frequently highlight indirectness, formality, and a preference for silence, whereas Taiwanese communication is characterized by warmth, expressiveness, and a willingness to engage in open dialogue.

Gao and Ting-Toomey (1998) note that affective factors like politeness, turn-taking, and emotional expressiveness significantly impact group dynamics. For example, silence may signify respect in Japanese culture but could be misinterpreted as disengagement by participants from low-context cultures. Similarly, the use of humor or emotional expressiveness in Taiwanese communication may be perceived as inappropriate or unprofessional by more reserved cultures (Matsumoto, 1994).

While these stereotypes provide a starting point for understanding cultural differences (see table below), their application in real-world settings can lead to oversimplifications. For instance, younger generations in both Japan and Taiwan are increasingly influenced by global norms, resulting in communication styles that blend traditional and modern elements. Educators must approach these stereotypes with caution, emphasizing flexibility and individual variation over rigid assumptions. Familiarity and awareness with cultural stereotypes is a valuable tool for the educator, however it must also be emphasized that communicative stereotypes are obviously not true in all circumstances for all students. This is particularly true in the context of higher education, with students having varying degrees of multicultural or international experience.

The impact of stereotypes was observed in the KUFS-NPTU project, where initial interactions often reflected preconceived notions of politeness and assertiveness. Specific examples will be discussed later in the findings section. By fostering open discussions about cultural norms and encouraging reflective practices, the project helped students move beyond stereotypes, cultivating a deeper understanding of each other's perspectives.

Key Cultural Communication Traits of Japanese and Taiwanese Students: A Collaborative Foundation for COIL Project

To provide a strong foundation for the COIL project, this table—developed collaboratively by the three instructors and authors—summarizes key differences in Japanese and Taiwanese communication styles. Japanese communication is characterized by indirectness, reserved emotional expressiveness, and the strategic use of silence to foster harmony. These traits often prioritize group consensus over individual expression, promoting cohesion but occasionally creating misunderstandings with participants from low-context cultures.

Table 1: Stereotypical Cultural Communicative Factors in Group Dynamics

Aspect	Japanese (JP)	Taiwanese (TW)
Directness	Indirect, often avoids saying "no" directly to prevent offending, using hints or softened refusals.	More direct, may openly express disagreement while maintaining respect, especially in group settings.
Expressiveness	More reserved in physical expression, with a focus on subtle gestures and limited overt emotion.	Tends to be expressive, using body language and tone to convey emotions.
Use of Silence	Silence is meaningful, used to convey thoughtfulness or respect, and is an integral part of dialogue.	Less reliance on silence; pauses are generally brief or conversational.
Harmony and Conflict	Prioritizes group harmony (Wa), often suppressing personal opinions to align with group consensus.	Open to expressing individual views in group contexts.

Taiwanese students, influenced by a blend of traditional and Western educational norms, are more direct and expressive. They openly share opinions while maintaining respect, using tone and body language to enhance clarity in discussions. Pauses in Taiwanese communication are typically brief and conversational, encouraging an inclusive and active exchange of ideas. This openness fosters dynamic group interactions, balancing personal viewpoints with collective goals.

By integrating these insights into project design, COIL instructors ensured participants were equipped to navigate cultural differences effectively. Understanding these distinctions empowers students to embrace diverse perspectives, mitigate potential misunderstandings, and leverage the strengths of both cultural approaches for meaningful collaboration.

Methodology

This study explores the intercultural communication and group dynamics of a Collaborative Online International Learning (COIL) project between students from Kyoto University of Foreign Studies (KUFS) in Japan and National Pingtung University (NPTU) in Taiwan. Conducted over a four-week period, the project aimed to foster linguistic proficiency, leadership development, and cross-cultural understanding through research and presentations on topics related to the United Nations Sustainable Development Goals (SDGs).

Project Design and Timeline

The COIL project followed a structured, phased timeline to guide student collaboration and learning:

Table 2: KUFS-NPTU COIL Project Design & Timeline

Phase	Tasks	Activities	Objectives
1	Contact & Connect	- Use LINE OpenChat for introductions and team building. - Orientation on communicative appropriateness (e.g., politeness, turn-taking).	- Establish rapport in a low-pressure environment. - Foster initial team cohesion and comfort with communication tools.
2	Communicate & Compare	- Engage in discussions to identify SDG-related issues. - Reflect on global and local challenges using descriptive writing exercises (5W1H framework)	- Develop understanding of global and local perspectives. - Enhance descriptive writing and analytical discussion skills.
3	Correlate & Collaborate	- Synthesize data gathered from prior discussions. - Conduct brainstorming sessions on shared challenges & opportunities. - Analyze regional dynamics collaboratively.	- Foster solution-oriented thinking. - Promote dynamic group discussions and mutual learning.
4	Construct & Change	- Produce a final multimedia video presentation. - Combine persuasive speaking, collaborative design, and advocacy.	- Clarify issues and propose actionable solutions. - Encourage advocacy and engagement through creative multimedia outputs.

These phases provided a balance between guided activities and opportunities for independent decision-making, allowing students to develop linguistic, critical thinking, and intercultural competencies.

Tools and Platforms

Two primary tools were used to facilitate the COIL project: LINE OpenChat and Google Workspace.

LINE OpenChat.

LINE was chosen for its familiarity and ease of use among students, providing a moderated and invite-only platform to ensure privacy and transparency. It allowed students to communicate asynchronously, fostering friendly, informal exchanges before transitioning to more formal tasks.

A clear rationale for starting with an SNS (social networking) platform is that an international project which could seem daunting to university students, started with the method of informal, concise, and immediate communication that students already use regularly.

The LINE application, widely used by Asian students, was chosen specifically for several reasons. First, it's a platform that most students are comfortable with. Secondly, it ensures privacy. Invite-only, moderated LINE groups are protected and moderated by the professors, which largely eliminates issues like cyberbullying or discomfort with students sharing personal information. Finally, the use of such an SNS platform lends itself to specific instruction, scaffolding, and orientation regarding appropriate communication manners. Students are then more effectively prepared to engage in collaborative research on global or local issues. Because students have an innate curiosity about their international peers' community, living situations, and academic environment, our goal as educators should be to nurture that curiosity. A foundation of informal, friendly, 'chat-based' communication results in participants who are more invested and motivated in the COIL project.

Workshops, practice sessions, and in-class instruction proved to be an effective tool for Japanese participants, allowing them to bridge the gap between a traditionally reserved or indirect communicative style, and the more assertive and direct approach of their Taiwanese counterparts. These workshops covered techniques for effective greetings, offering choices, asking questions, encouraging others, turn-taking, and promoting group sharing. Practicing these skills in a controlled environment before team meetings helped immensely.

Google Workplace (Google Sheet, Google Slides, Google Docs).

Google Sheets, Slides and Docs served as the main platform for collaborative work, enabling students to co-create presentations. Its features, such as color-coded sections and integrated links, ensured accessibility, flexibility, and clarity. Students used this suite of tools to organize their ideas, share resources, and prepare their final video projects. For students with a limited experience using the Google Suite of applications for education, familiarity and practice with these ubiquitous platforms in an international shared context yielded a tremendous collateral benefit for students, many of whom will have opportunities to work collaboratively in their future careers.

Additionally, the combination of these platforms facilitated synchronous and asynchronous interactions, ensuring that all participants could engage effectively despite differing schedules and technological proficiencies. The reality of COIL projects is that a great deal of logistical negotiations become necessary when a group of participants attempt to align schedules and project-based activity.

Data Collection and Ethical Considerations

Data were collected from multiple sources to analyze group dynamics and communication strategies, including:

- Transcripts of group discussions and meeting recordings.
- Reflective surveys documenting students' perceptions of leadership, communication styles, and collaborative experiences.
- Observational notes on participation and interaction patterns during workshops.

All participants provided informed consent, and data were anonymized to protect privacy and confidentiality. These ethical protocols ensured that the study adhered to international research standards, maintaining the integrity of the research process.

Integrating ChatGPT for Communication Data Analysis

To analyze the communication data from the COIL project, ChatGPT was leveraged as a scalable AI tool to process and interpret the extensive chat logs generated by participants. ChatGPT enabled for the systematic analysis of key communication patterns, including leadership traits, participant engagement, and group dynamics, across groups A to T. Prompts were designed to identify leadership roles, quantify message contributions, and highlight collaborative behaviors such as turn-taking and problem-solving. This AI-driven analysis provided nuanced insights, such as identifying students who demonstrated strong leadership through initiative, task management, and organizational skills. Additionally, ChatGPT helped uncover patterns in group interactions, revealing how cultural communication styles influenced collaboration and adaptability. The integration of AI not only streamlined the data analysis process but also allowed for real-time exploration of group dynamics, supporting the study's aim to better understand intercultural collaboration. This approach demonstrates the potential of AI tools in educational research for efficiently extracting meaningful trends from large datasets.


Communication data analysis using ChatGPT included:

- **Analyze Group A to T Chat Logs:**
  Summarize notable leadership traits exhibited by students in Groups A to T.
- **Quantify Data:**
  Determine participant count, roles, number of messages, and word count for each participant in each file.
- **Provide Overall Leadership Analysis:**
  Summarize observations on students who exhibited leadership qualities within their groups.
- **Identify Strong Leaders:**
  Specify which students demonstrated good leadership skills based on engagement, initiative, and organizational skills.
- **Determine Patterns in Group Dynamics:**
  Explain observed patterns in group dynamics across all groups, including leadership, collaboration, and adaptability.

Figure 1: Data Analysis Findings Using ChatGPT

Conclusion

The integration of structured phases, user-friendly tools, and a well-grounded pedagogical framework provided students with a supportive yet challenging environment to develop intercultural communication skills. This methodology enabled researchers to observe the interplay between cultural norms, leadership dynamics, and the balance of scaffolding and autonomy, offering valuable insights for future COIL projects.

Results & Discussion

Quantitative Results and Analysis

The quantitative analysis of group dynamics and leadership roles was conducted using AI tools such as ChatGPT to process communication data from LINE OpenChat logs. The results provided insights into participant engagement, leadership distribution, and messaging trends across 20 COIL groups.

Leadership dynamics in Multicultural Teams

This table provides an overview of the leadership roles and contributions observed across the 20 COIL project groups. The data highlights how leadership was distributed, with a majority of leaders being Taiwanese participants who demonstrated strong organizational and task-oriented behaviors, such as setting meeting agendas, coordinating schedules, and guiding group discussions. Notably, Japanese leaders, though fewer in number, contributed significantly by fostering inclusivity and maintaining group harmony. For instance, in Group F, leadership responsibilities were shared between Casper (TW) and Kurumi (JP), illustrating a collaborative approach that bridged cultural communication styles. This data underscores the interplay of proactive task management and collaborative harmony, emphasizing the complementary strengths that diverse cultural approaches bring to group dynamics.

Leadership Distribution

The analysis revealed that 85% (17 out of 20) of group leaders in the dataset were Taiwanese participants, while only 15% (3 out of 20) were Japanese students. This indicates a significant disparity in leadership roles, with Taiwanese participants frequently assuming proactive leadership positions.

Leadership Contributions

Key leadership activities included, organizing meetings and managing schedules, assigning roles and maintaining focus on group objectives, and facilitating topic discussions and ensuring progress on SDG-related tasks. For instance, in Group A, the Taiwanese leader was responsible for setting the SDG focus and coordinating meeting agendas, while the Japanese leader in Group F supported the group by scheduling meetings and assisting with coordination.

Patterns in Communication and Engagement

The analysis also quantified engagement by examining the frequency of messages and the distribution of responsibilities. Taiwanese participants, on average, sent more directive and action-oriented messages, while Japanese participants contributed by providing reflective inputs and ensuring inclusivity. The data confirmed that these complementary styles fostered group cohesion and productivity.

Table 3: Leadership Roles and Contributions in COIL Project Groups

Group	Leader(s)	Leadership Contributions
A	WeiZi (TW) Sammy Tu (TW)	Organized meetings, set SDG focus
B	Tiffany (TW)	Set group norms, coordinated tasks
C	Rita (TW)	Managed meeting schedules, inclusive approach
D	Jessie (TW) Agnes (TW)	Organized schedules, led topic focus on SDGs
E	Amanda (TW)	Guided meetings, maintained group focus
F	Casper (TW), Kurumi (JP)	Scheduled meetings, helped with coordination
G	Yuki (JP)	Facilitated introductions, kept the group on task
H	Sun (TW)	Coordinated meetings, managed scheduling
I	Sheren (TW)	Organized topic voting, clear communication
J	Jin Ni (TW)	Set group structure, coordinated tasks
K	Adam (TW)	Setup chat, guided discussions
L	Daisy (TW)	Led group introductions, managed schedules
M	Grace (TW)	Organized meetings, maintained focus
N	Cindy Wu (TW)	Facilitated topic discussions, organized meetings
O	Wendy (TW)	Setup chat, encouraged participation
P	Hana (JP)	Coordinated schedules, guided SDG topic focus
Q	N/A	No data available
R	Abner (TW)	Set meetings, facilitated collaboration
S	Shi Yiyi (TW)	Led setup and maintained group cohesion
T	Sherry (TW)	Established group structure, supported collaboration

Qualitative Results and Analysis

Students demonstrated critical thinking skills such as (1) leadership, (2) negotiation, and (3) problem-solving, which are crucial for managing group dynamics and ensuring productive outcomes. In addition, participants had to (4) balance scaffolded and autonomous interactions. By leveraging LINE OpenChat as the preferred communication platform, students could coordinate their efforts seamlessly, share ideas in real-time, and maintain a record of their progress. ChatGPT allowed for the rapid data analysis of text exchanges to identify real-time text exchanges for examples of these key skills. Insights are supported by chat transcript excerpts and data visualization from ChatGPT analysis.

Leadership Skills

Students exhibited leadership within their groups by using communication in LINE OpenChat. On Wednesday, May 8, 2024 at 12:19 PM, the Japanese student (Kana) from Group L texted her group. Her text message was as follows:

> "What our group will do first:
> 1. Decide on one SDG as a group.
> 2. Discuss solutions.
> 3. Divide roles for the presentation (examples: introduction, SDG explanation, solutions, examples, and closing).
> 4. Determine roles for video submission (e.g., video editing, PowerPoint slides, YouTube upload).
>
> The video is due June 9. Let's give it our best!"

This detailed message highlights Kana's clear organization and encouragement of group participation. It also exhibits her ability to maintain focus on deadlines and tasks. Furthermore, it shows initiative because her action was from self-motivation to benefit the group.

Negotiation Skills

An additional exchange using LINE OpenChat showed a clear example of negotiation. On Tuesday, May 14, 2024 starting at 7 PM, Group R discussed the following:

> Abner: "I'm free on weekends."
> Haruto: "Yes."
> Abner: "Which SDGs are you interested in?"
> Haruto: "SDG 2 is interesting."
> Yuri: "I'm also interested in SDG 13. What about everyone else?"
> Yuri: "We have to decide one SDG as a group?"
> Haruto: "I can accept SDG 2."
> Abner: "I am interested in both SDG 2 and SDG 4."
> Yuri: "So will our group choose SDG 2?"
> Abner: "Yes."

This exchange from Group R demonstrates negotiation as students collaboratively discussed their preferences for SDG topics. Members openly shared their interests, considered alternative suggestions, and worked toward a consensus by agreeing on their selection. The dialogue reflects respectful communication and a willingness to accommodate differing opinions to reach a group decision effectively. As a result, the team was able to successfully compromise on SDG 2.

Problem-Solving Skills

Students communicated in Line OpenChat to problem-solve specific issues in their groups. On Tuesday, May 11, 2024, beginning at 9:45 AM, Group F exchanged the following messages:

> Kurumi: "Can anyone create a Google Meet room and record it?"

Casper: "I can create the room, but I don't have storage space on my phone to record."
Hana: "Thank you, Casper! I'll use the screen recording function on my phone to record it."

Group F's problem-solving exchange demonstrates effective teamwork and resourcefulness. Kurumi identified the need for both a meeting platform and a recording solution, initiating the problem-solving process. Casper contributed by creating the Google Meet room but acknowledged a limitation in recording capabilities. Hana offered a practical solution by using her phone's screen recording feature. This demonstrated adaptability and willingness to take responsibility. This exchange highlights how open communication and shared efforts can resolve logistical challenges efficiently within a group.

The Balance Between Scaffolding and Autonomous Activities

Achieving an optimal balance between scaffolding and autonomy requires ongoing assessment and flexibility from educators. As the dynamics of roles within cohorts coalesced, structured support was gradually reduced, and instructors transitioned from explicit guidance to a more observational role, with feedback offered only when necessary. Such an approach respected the individual learning trajectories of students, allowing them to develop confidence in both controlled and autonomous group interactions. By fostering both structured skill-building and opportunities for independent application, a nurturing learning environment encouraged not only linguistic proficiency but also essential skills for global citizenship.

Furthermore, student-centered autonomy is important in cultivating authentic group dynamics. Giving students control over group tasks, such as choosing topics, assigning roles, or deciding on the methods they will use to accomplish goals, encourages ownership of their learning and fosters a sense of accountability. When students are encouraged to negotiate roles and contribute their unique perspectives, they not only learn language skills but also develop the ability to navigate and appreciate diverse viewpoints. This aspect of autonomy can deepen intercultural competence by promoting an open-minded attitude and adaptability in group settings.

Discussion

The study's findings provide a nuanced understanding of how cultural communication styles influence group dynamics in COIL projects, addressing both research questions effectively. Leadership, negotiation, and problem-solving emerged as essential skills, with Taiwanese and Japanese students contributing distinct strengths that balanced directness and harmony. These insights demonstrate the potential of diverse cultural approaches to enhance group collaboration and innovation.

The phased structure of the project, combining scaffolding with autonomous activities, enabled students to navigate intercultural challenges while developing confidence and competence. By gradually transitioning to autonomy, students were able to take ownership of their tasks and decisions, fostering critical thinking and intercultural adaptability. These practices also deepened students' appreciation for diverse perspectives and communication styles.

Qualitative analysis revealed meaningful patterns in leadership and collaboration, with students successfully negotiating tasks, resolving logistical challenges, and building inclusive group dynamics. The integration of AI tools like ChatGPT to analyze the communication data from LINE OpenChat logs facilitated a detailed examination of these interactions, offering valuable recommendations for refining future educational strategies. In sum, this study highlights the transformative potential of COIL projects in preparing students for meaningful engagement in a multicultural and interconnected world.

Conclusion

This study provides valuable insights into how COIL projects can bridge cultural divides and prepare students for the demands of global citizenship. By examining leadership, negotiation, and problem-solving within the context of intercultural collaboration, the research questions were addressed with a focus on cultural communication norms and the pedagogical balance of scaffolding and autonomy.

The findings reveal the complementary strengths of Taiwanese and Japanese students in managing group dynamics, with the former often taking proactive leadership roles and the latter ensuring inclusivity and harmony. These dynamics illustrate the potential for diverse cultural approaches to enrich collaboration and foster mutual understanding. The project also highlighted how carefully calibrated scaffolding transitions to autonomy can empower students to take ownership of their learning, fostering critical skills and confidence.

The integration of AI tools like ChatGPT for analyzing communication provided actionable insights into group interactions, enhancing the ability of educators to tailor support to students' needs. This approach offers a scalable and innovative model for improving the effectiveness of COIL projects.

Looking ahead, future COIL initiatives should explore larger and more diverse participant groups, incorporate longer-term collaborations, and examine the role of emerging technologies in supporting intercultural learning. By continuing to innovate and refine these practices, COIL projects can play a vital role in equipping students with the skills and perspectives needed to thrive in an interconnected, multicultural world.

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