



Strengthening Intercultural Communication Skills Through Telecollaboration Between Colombian and American College Students

Fortalecimiento de la competencia comunicativa intercultural mediante telecolaboración entre estudiantes colombianos y estadounidenses universitarios

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ABSTRACT

Globalization requires that foreign language learners develop intercultural communicative competence beyond mere linguistic proficiency. Therefore, the study aimed to identify the factors that contribute to strengthening intercultural communicative competence through telecollaboration between Colombian and American university students. To this end, a convergent mixed-methods design was applied to a twelve-week telecollaboration program with 45 participants, combining the ICAI Questionnaire, learning journals, recordings of synchronous sessions, and focus groups to triangulate the evidence. The results showed statistically significant increases ($p < 0.001$) in the six dimensions assessed, particularly in intercultural critical awareness and adaptive behavior, compared to minimal changes in the control group. The thematic analysis revealed that intercultural empathy was the most frequently recurring category, followed by the critical examination of stereotypes.

Descriptors: higher education; language teaching; intercultural communication; educational technology. (Source: UNESCO Thesaurus).

RESUMEN

La globalización exige que los estudiantes de lenguas extranjeras desarrollen competencia comunicativa intercultural más allá del dominio lingüístico. Por tanto, el estudio persiguió como objetivo determinar los elementos que contribuyen al fortalecimiento de la competencia comunicativa intercultural mediante la telecolaboración entre estudiantes universitarios colombianos y estadounidenses. Para ello, se aplicó un diseño de enfoque mixto convergente en un programa de telecolaboración de doce semanas con 45 participantes, combinando el Cuestionario ICAI, diarios de aprendizaje, grabaciones de sesiones síncronas y grupos focales para triangular la evidencia. Los resultados evidenciaron incrementos estadísticamente significativos ($p < 0.001$) en las seis dimensiones evaluadas, particularmente en conciencia crítica intercultural y comportamiento adaptativo, frente a variaciones mínimas del grupo control. El análisis temático reveló que la empatía intercultural constituyó la categoría más recurrente, seguida de la revisión crítica de estereotipos.

Descriptorios: educación superior; enseñanza de idiomas; comunicación intercultural; tecnología educativa. (Fuente: Tesaurus UNESCO).

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Research Articles Section



INTRODUCTION

Globalization has significantly transformed the landscape of higher education, creating new demands for foreign language learners. Today, it is no longer sufficient to acquire linguistic competence; it is essential to develop intercultural communicative competence that enables them to interact effectively, respectfully, and appropriately in multilingual and multicultural contexts. In this regard, telecollaboration—understood as collaboration between geographically distant individuals using digital technology-mediated communication tools—is a strategy that promotes authentic language learning and, simultaneously, the development of intercultural competencies.

In the Latin American context, particularly in Colombian institutions of higher education, foreign language programs face significant challenges, including limited access to native speakers, the heterogeneity of technological resources, and difficulties in creating spaces for authentic interaction. Given this scenario, international telecollaboration represents a viable and scalable alternative to address these needs. However, its implementation requires a comprehensive understanding of how this modality influences the development of the different dimensions of intercultural communicative competence.

Various previous studies (Byram, 1997; Liddicoat, 2016; O'Dowd, 2018) have provided solid theoretical frameworks for understanding intercultural competence in language teaching and learning. However, there is still a scarcity of research that empirically documents how telecollaboration fosters the development of aspects such as critical awareness of cultural stereotypes, the ability to interpret cultural behaviors, and the transformation of attitudes toward otherness. Furthermore, a knowledge gap persists regarding academic exchanges between Colombia and the United States, where historical, political, and socioeconomic particularities shape specific intercultural dynamics.

In response to these limitations, this study aims to contribute to existing knowledge through a detailed analysis of the changes in intercultural communicative competence experienced by Colombian and U.S. college students who participated in a structured telecollaboration program. To this end, quantitative and qualitative methodological approaches are integrated to understand the multidimensional nature of the changes in this competence.

Thus, the following research question is posed: What factors contribute to the strengthening of intercultural communicative competence through telecollaboration between Colombian and American college students?

Therefore, the research objective was to determine the factors that contribute to strengthening intercultural communication skills through telecollaboration between Colombian and American college students.

METHOD

Research Design

A mixed-methods study with a parallel convergent design (Creswell, 2014) was conducted. The quantitative component employed a quasi-experimental design with a non-equivalent control group, while the qualitative component was analyzed using thematic analysis. This approach allowed for the triangulation of quantitative data on changes in intercultural communicative competence with narratives derived from the participants' experiences. The total research period was 15 weeks, divided into a two-week baseline phase, a twelve-week intervention phase, and a one-week final evaluation phase.

Participants

The sample consisted of 45 college students: 23 from a Colombian institution of higher education and 22 from a U.S. institution. All were enrolled in bachelor's degree programs in foreign languages or bilingual education and possessed a minimum B1 level of linguistic competence in the language of the exchange, in accordance with the Common European Framework of Reference for Languages. Their ages ranged from 19 to 25 years.



Assignment to groups was based on the academic organization of the participating institutions and the students' voluntary availability, without a randomization procedure; therefore, the study adopted a quasi-experimental design. The control group consisted of 12 students (6 Colombians and 6 Americans), who continued to follow the regular curriculum for their courses. The experimental group consisted of 33 students (17 Colombians and 16 Americans), who additionally participated in a structured telecollaboration program.

Intervention and Implementation

The intervention consisted of a twelve-week telecollaboration program with synchronous and asynchronous activities conducted weekly. Each week included: (1) a 90-minute synchronous session via structured videoconferencing on pre-determined topics; (2) asynchronous exchange of reflections in moderated forums over a period of three to five days; and (3) completion of collaborative assignments in shared documents.

The content was organized according to a progression aimed at developing intercultural communication competence: weeks 1–3, exploration of cultural identities; weeks 4–6, comparison of cultural values; weeks 7–9, analysis of intercultural dilemmas and conflicts; and weeks 10–12, development of intercultural action projects.

Open-source platforms were used, specifically Jitsi for video conferences and Moodle for managing forums, supplemented by Google Docs as a cloud-based collaborative tool for the joint creation of documents. Before the intervention began, all participants received training on intercultural communication, netiquette, how to use the digital platforms, and ethical considerations related to virtual interaction. Additionally, the sessions were recorded only after obtaining informed consent from all participants.

Data Collection Instruments

Multiple instruments were used to strengthen methodological triangulation.

Intercultural Communication Competence Questionnaire (ICAI). An adapted version of *the Intercultural Competence Assessment Instrument* (Fantini, 2009) was used, consisting of 32 items on a five-point Likert scale. The instrument was linguistically and culturally adapted to the study's context through expert review and administered at the beginning and end of the intervention.

Weekly learning journal. Students wrote structured reflections of between 200 and 400 words on their experiences with intercultural interaction.

Recordings of synchronous sessions. Approximately 24 hours of videoconferences were analyzed to identify patterns of interaction, strategies for resolving misunderstandings, and processes of shared construction of intercultural meaning.

Exit survey with open-ended questions. At the end of the intervention, participants answered questions designed to identify perceived changes in their cultural perspectives.

Analysis of collaborative artifacts. Documents produced jointly by the international pairs were examined using indicators related to intercultural negotiation, shared knowledge construction, and collaborative problem-solving.

Focus group. A focus group was conducted with a purposive subsample of eight participants from each country, selected based on their level of participation during the intervention and the richness of their intercultural experiences.

Data Analysis Procedure

In the quantitative phase, the scores obtained before and after the intervention were compared using a two-factor analysis of variance (ANOVA), with time (pretest and posttest) and group (control and experimental) as variables. In addition, effect sizes were calculated using partial eta-squared (η^2_p) to estimate the magnitude of the observed changes.



In the qualitative phase, thematic analysis was applied following the procedure proposed by Braun and Clarke (2006). Two researchers independently performed inductive coding of the learning journals, identifying six main categories: (1) cultural knowledge; (2) interpretive skills; (3) discovery and interaction; (4) intercultural attitudes; (5) critical intercultural awareness; and (6) behaviors and adaptation. The reliability of the coding process was estimated using Cohen's kappa coefficient ($\kappa = 0.82$), an indicator that demonstrated near-perfect agreement between the two coders.

The open-ended responses from the final survey were examined using lexical frequency and co-occurrence analysis, supplemented by manual thematic analysis, while the quantitative and qualitative results were integrated during the interpretation phase to contrast and complement the evidence obtained from both methodological approaches.

RESULTS

Quantitative Analysis of Change in Intercultural Competence

Table 1 and Figure 1 present the results of the change in intercultural communicative competence scores between the baseline and the post-intervention assessment for the experimental group. Overall, statistically significant increases were observed across all six assessed dimensions, indicating a strengthening of intercultural communicative competence following the telecollaboration program.

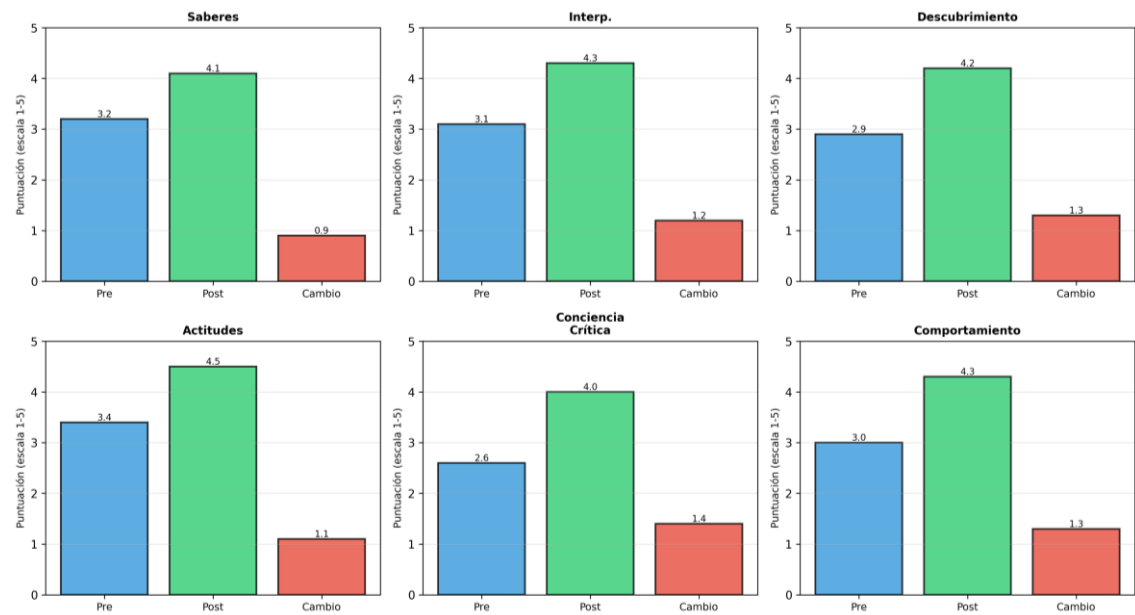


Figure 1. Changes in dimensions of intercultural competence before and after the intervention.
Source: Author's own.

When examining the distribution of results based on Figure 1, an increase is observed in all assessed dimensions following the program's implementation. The most significant changes were observed in intercultural critical awareness, discovery and interaction, and adaptive behavior, reflecting a greater development of the ability to understand other cultural perspectives, navigate interactions with interlocutors from different contexts, and respond with greater sensitivity to intercultural situations. This behavior demonstrates that the telecollaboration experience led to improvements in the various components that make up intercultural communication competence.



Table 1. Pre-post ICAI results by dimension.

Dimension	Pre-Mean (SD)	Post-Mean (SD)	Change	p-value
Cultural Knowledge	3.2 (0.8)	4.1 (0.6)	+0.9	<0.001
Interpretive Skills	3.1 (0.9)	4.3 (0.5)	+1.2	<0.001
Discovery and Interaction	2.9 (1.0)	4.2 (0.7)	+1.3	<0.001
Intercultural Attitudes	3.4 (0.7)	4.5 (0.4)	+1.1	<0.001
Intercultural Critical Awareness	2.6 (1.1)	4.0 (0.8)	+1.4	<0.001
Adaptive Behavior	3.0 (0.9)	4.3 (0.6)	+1.3	<0.001

Note: SD = Standard deviation. N = 33 (experimental group).

Table 1 corresponds to what is shown in the previous figure; the data reveal statistically significant differences ($p < 0.001$) between the initial and final measurements across all analyzed dimensions. The greatest difference was observed in critical intercultural awareness (+1.4), followed by discovery and interaction (+1.3) and adaptive behavior (+1.3). These results indicate more pronounced progress in those components related to the critical understanding of cultural differences and adaptation during communication. Additionally, the dispersion of scores decreased in the final assessment, suggesting that progress was shared by most of the participating students. Overall, the results show significant differences between the experimental group and the control group, with the experimental group achieving substantially greater improvements across all assessed dimensions.

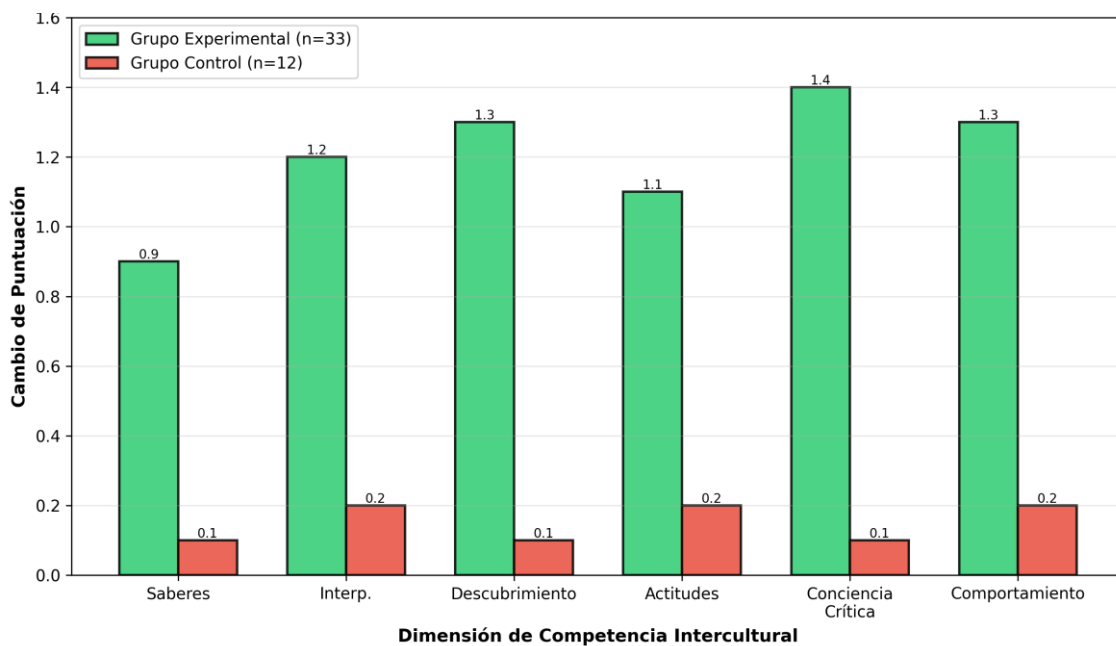


Figure 2. Comparison of changes in intercultural competence: experimental group vs. control group. Source: Author's own.

Figure 2 provides a comparative perspective, and the differences between the two groups are evident; while the control group showed only minor variations during the study period, the experimental group recorded greater increases in all dimensions of intercultural communicative competence. This difference allows us to attribute the observed changes to the implementation of the telecollaboration program, given that both groups shared similar academic conditions, differing only in the inclusion of the intervention; therefore, the results support the positive effect of telecollaboration on the development of intercultural communicative competence among college students.



Analysis of Student Journals

The analysis of the 156 entries in the learning journals identified six thematic categories describing the transformations experienced by the students during the telecollaboration process. In this regard, the frequency of the codes revealed a recurring presence of references related to intercultural empathy, trust during communication, and a positive appreciation of cultural differences—aspects that occupied a central place in the participants’ reflections.

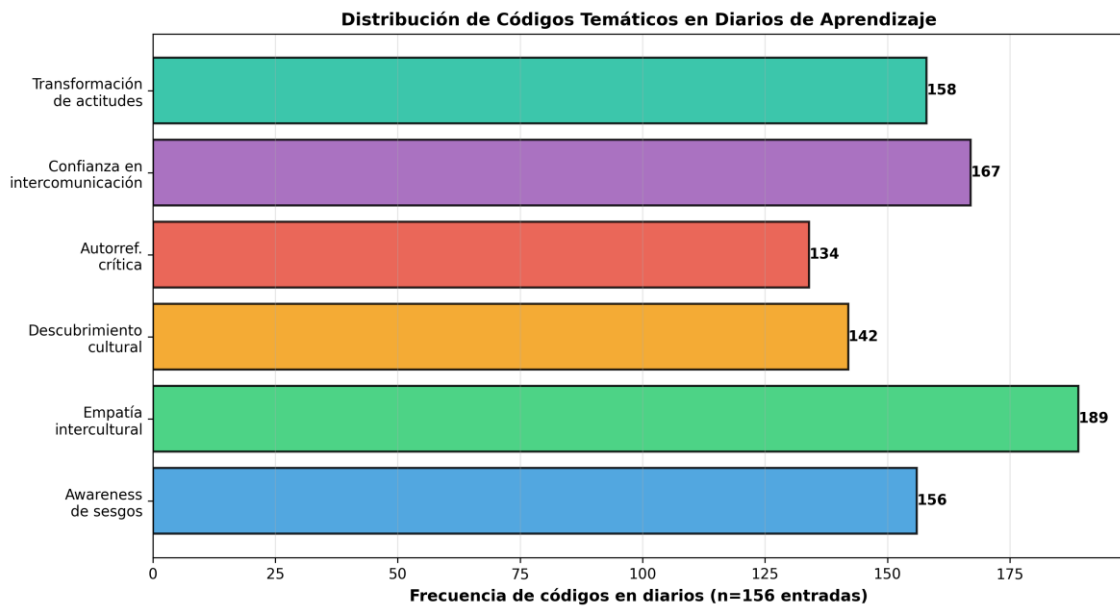


Figure 3. Distribution of thematic codes in learning journals. Source: Author.

Consequently, Figure 3 shows that the distribution of codes reflects a balanced representation of the six identified categories, although those related to intercultural attitudes, discovery and interaction, and critical intercultural awareness are more prevalent in the students’ accounts. This pattern suggests that the telecollaboration experience went beyond the learning of cultural content and fostered processes of personal reflection, the questioning of stereotypes, and the construction of new ways of understanding cultural diversity.

Word clouds of open-ended responses

The responses to the open-ended question about personal transformations resulted in a word cloud in which terms such as *trust*, *understanding*, *diversity*, and *transformation* stand out; the high frequency of these expressions highlights the aspects that students considered most relevant during their intercultural exchange experience.



The graphic representation shown in Figure 5 demonstrates that the students recognized the existence of initial barriers, particularly those related to cultural differences, communication styles, and expectations regarding interaction. However, the most frequently occurring words also include references to learning, cooperation, and mutual respect, indicating that these difficulties gradually transformed into opportunities to broaden intercultural understanding and strengthen communication skills as the intervention progressed.

Table 2. *Examples of student testimonials by category.*

Category	Description	Representative Example
Cultural Knowledge	Acquisition of knowledge about the practices, values, and history of the other country.	"I learned about differences in educational systems: the U.S. emphasis on early participation versus the Colombian emphasis on respect for authority."
Interpretive Skills	Ability to explain behaviors without resorting to stereotypes.	"I understand that direct communication does not mean a lack of respect, but rather reflects a culture that values precision."
Discovery and Interaction	Initiative to explore differences and build mutual understanding.	"I asked directly about their political concerns and set aside my preconceived notions."
Intercultural Attitudes	Openness to differences and a willingness to learn from other cultures.	"Differences ceased to be obstacles and became opportunities to learn about other ways of thinking."
Critical intercultural awareness	Reflection on one's own beliefs, prejudices, and mental frameworks.	"I discovered that many of my judgments stemmed from stereotypes spread by the media rather than from real experiences."
Adaptive behavior	Adjusting communication based on the context and the person I'm talking to.	"Now I adapt my language, the pace of the conversation, and the topics depending on the person I'm talking to."

Source: Author.

As shown in Table 2, the participants' testimonies reveal that the observed transformations were not limited to the acquisition of knowledge about other cultures but also encompassed changes in how they interpreted differences, interacted with people from other contexts, and reflected on their own prejudices. Taken together, the qualitative evidence supports the quantitative results obtained with the ICAI and shows that telecollaboration fostered a comprehensive development of intercultural communicative competence, expressed at the cognitive, attitudinal, and behavioral levels.

THEORETICAL REFLECTION ON THE RESULTS

Viewed in this light, the results obtained demonstrate that telecollaboration between university students in Colombia and the United States fostered the strengthening of intercultural communicative competence across its various dimensions; consequently, the improvements observed in both quantitative indicators and qualitative results support the potential of digitally mediated collaborative environments to promote meaningful intercultural learning. Given that these results align with those reported by O'Dowd (2018) and Helm and O'Dowd (2014), it can be argued that structured virtual interaction facilitates the development of the knowledge, skills, and attitudes necessary for intercultural communication. Furthermore, this study provides empirical evidence in the context of an exchange between Colombian and U.S. university students a scenario that has received less attention in the specialized literature.

Changes in Intercultural Knowledge and Skills

In this regard, with respect to cultural knowledge and interpretive skills, the results show significant increases between the initial and final assessments (3.2 vs. 4.1 and 3.1 vs. 4.3, respectively); Consequently, these changes indicate that the students broadened their



understanding of the practices, values, and forms of social organization present in their interlocutors' culture, while developing a greater ability to interpret behaviors within their sociocultural context, thereby avoiding explanations based on stereotypes. From this perspective, as Byram (1997) argues, intercultural competence does not depend solely on the acquisition of knowledge, but also on the ability to critically interpret and relate cultural phenomena. Since the results obtained support this approach, the learning journals show that participants began to explain cultural differences by considering historical, educational, social, and institutional factors. To illustrate this, one of the students stated: *"It's not that Americans are direct by nature; that pattern emerges from educational and business structures that reward precision and efficiency."* In other words, this type of reflection demonstrates a shift from simplified interpretations toward more complex analyses of intercultural reality.

Changes in Attitudes and Intercultural Awareness

In contrast, the greatest variations were observed in the dimensions of intercultural attitudes (3.4 versus 4.5) and critical intercultural awareness (2.6 versus 4.0); thus, these results suggest that the telecollaboration experience not only broadened the students' knowledge but also encouraged them to reexamine their own beliefs, prejudices, and ways of understanding cultural reality. Given that Byram (1997) and Guilherme (2002) argue that critical intercultural awareness involves the ability to reflectively examine both one's own culture and that of others, the testimonies collected demonstrate this process of reconstructing perspectives. As one American student describes it: *"Talking with my Colombian classmates, I realized how much the American news system simplifies complex conflicts into 'good versus bad' narratives. I hadn't recognized this before because that was simply the reality I knew."* That is, the reflection cited above demonstrates a questioning of previously assumed interpretive frameworks and aligns with what Mezirow (2000) describes regarding transformative learning, where meaningful experiences lead to a critical review of previously accepted assumptions.

Empathy as the Cornerstone of Intercultural Learning

In other words, another relevant aspect concerns the role of intercultural empathy during the learning process; for this reason, the analysis of the diaries revealed that this category was the most frequent, with 189 entries out of a total of 948 identified codes—a figure representing approximately 20% of the total. From the perspective of intercultural psychology, Bennett (2004) notes that understanding other cultures requires developing the ability to recognize different perspectives without losing one's own cultural identity. Complementarily, Levinas (1969) argues that the encounter with the other constitutes an ethical experience based on the recognition of the other's uniqueness. As a result, the testimonies analyzed reflect precisely this process, as the students shifted from perceiving their conversation partners as homogeneous representatives of a culture to recognizing them as individuals with unique experiences, concerns, and life stories.

Such is the case of a Colombian participant, who stated: *"My American classmate spoke about his concerns regarding the cost of higher education. I thought Americans had everything figured out, but when I heard him explain the financial difficulties he was facing, I realized that he, too, faces complex situations. That conversation changed the way I think."* That being the case, this account illustrates how direct contact fostered the development of empathy and helped overcome oversimplified notions about the reality of the other.

Mechanisms Explaining the Effectiveness of Telecollaboration

Given the information presented, we can analyze some of the elements that appear to contribute to the relative effectiveness of telecollaboration compared to traditional teaching tactics in the control group. First, the interaction took place with real people, not with abstract models of other cultures; this feature allowed for the creation of authentic relationships for exchange and facilitated learning processes similar to those that occur within communities of practice (Lave and Wenger, 1991), where knowledge is generated through social interaction, while discussions within the context of telecollaboration activities continually challenged participants' prior ideas with concrete experiences.



This confrontation encouraged the reevaluation of stereotypes and the construction of interpretations more aligned with the diversity of cultural realities observed during the exchange; in short, the relational aspect of communication enhanced the students' engagement with intercultural communication; in contrast to the conventional classroom process, the interaction involved a direct relationship with another person—a situation more open to expressing and reflecting on how one's self-generated discourse can lead others to consider different points of view. The main contribution of these elements is to explain why telecollaboration produced broader and more stable effects on students' intercultural communicative competence than traditional teaching methods.

CONCLUSION

Three key elements came together to develop intercultural communicative competence in Colombian and American students: sustained contact with real interlocutors, which replaced abstract representations with authentic relationships; systematic reflection through journals and forums, which fostered critical review of prior stereotypes; and intercultural empathy, the most frequently mentioned theme in the students' narratives. Since these elements worked synergistically, the students not only developed their own cultural knowledge but also modified their attitudes and critical awareness toward difference, confirming telecollaboration as a positive pedagogical tool for intercultural education at the university level.

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CONFLICT OF INTEREST

There is no conflict of interest with individuals or institutions linked to the research.

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