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Intercultural Sensitivity in Collaborative Online Learning (COIL): An Exploratory Paper Evidencing Areas of Improvemenet

Catherine Hidalgo Rios

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RESUMEN

El objetivo del presente estudio es comprender el papel que el Aprendizaje Internacional Colaborativo en Línea (COIL) puede tener en la sensibilidad intercultural en estudiantes universitarios de pregrado. Esto fue operacionalizado a través de la escala de sensibilidad intercultural (ISS) (Chen & Starosta, 2000). Los participantes fueron jóvenes estudiantes de pregrado de una universidad de Ecuador y de una universidad de Canadá. Primero, se pidió a los participantes que completaran el ISS antes de participar en la colaboración COIL. Posteriormente, se dieron instrucciones sobre el proyecto académico que debían realizar con estudiantes de otro país. A lo largo de este tiempo, los participantes tuvieron la oportunidad de relacionarse con sus compañeros culturalmente diversos y trabajar en el proyecto académico. Finalmente, se pidió a los estudiantes que llenaran nuevamente la escala de sensibilidad intercultural unos pocos días después de la finalización del proyecto COIL para comparar los resultados reportados antes y después de la experiencia. En general, se predijo que la experiencia COIL mejoraría la sensibilidad intercultural de los estudiantes al mejorar los puntajes informados en el ISS. Los resultados indican que no hay cambios significativos en ninguna de las subescalas pertenecientes a la ISS tras el proyecto COIL. Además, los resultados indican que no hay relación entre las habilidades en inglés autoinformadas y la subescala de confianza en el ISS. La aplicación de estos hallazgos puede ser útil para evaluar áreas de mejora en el proyecto COIL.

Palabras claves: competencia intercultural, escala de sensibilidad intercultural, aprendizaje colaborativo interactivo en línea, confianza, inteligencia cultural, humildad cultural.

Abstract

The aim of the present study is to understand the role that Collaborative Online International Learning (COIL) can have on intercultural sensitivity in undergraduate university students. This was operationalized through the intercultural sensitivity scale (ISS) (Chen & Starosta, 2000). Participants were young undergraduate students from a university at Ecuador and from a university at Canada. First, participants were asked to complete the ISS prior to participating in the COIL collaboration. Later, instructions were given about an academic project they had to complete with students from another country. Throughout this time, participants had the opportunity to engage with their culturally diverse peers and work on the academic project. Finally, students were asked to fill the intercultural sensitivity scale again a few days before the end of the COIL experience in order to compare the results reported prior and after the experience. Overall, it was predicted that the COIL experience would improve students' intercultural sensitivity by enhancing scores reported in the ISS. Results indicate there are no significant changes in any of the subscales belonging to the ISS after the COIL project. Additionally, results indicate no relationship between self-reported English skills and the confidence subscale in the ISS. The application of these findings can be useful to evaluate areas of improvement in the COIL project.

Keywords: intercultural competence, intercultural sensitivity scale, intercultural sensitivity, collaborative online interactive learning, confidence, cultural intelligence, cultural humility.

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Abbreviations

COIL: Collaborative Online International Learning

ISS: Intercultural sensitivity scale

STEM: Science, technology, engineering, mathematics

VR: Virtual Reality

CQ: Cultural intelligence

CH: Cultural humility

Intercultural Sensitivity in Collaborative Online International Learning (COIL): An exploratory paper evidencing areas of improvement

Introduction

In an increasingly globalized world, building intercultural competence becomes fundamental. It is predicted that in the United States by 2060, twenty-nine percent of the population will identify as Hispanic, nine percent will identify as Asian (Colby & Ortman, 2015). In Ecuador, research reflects a significant increase in immigration in the last few years (Ponce-Castillo & Gonzales-Andrade, 2021). Therefore, knowing how to interact and dynamically engage with individuals from other cultures is necessary and will become more pressing. Additionally, having proficiency on the ways in which to interrelate with individuals from a diverse cultural background has been seen to be an essential professional asset for many companies (Jenifer & Raman, 2017).

Intercultural competence skills have also impacted healthcare as studies have found that healthcare industries are facing challenges due to an rise in cultural diversity in their institutions and a lack of trained professionals on cultural abilities (Alizadeh & Chavan, 2016). Other research has found that cultural competence is related to an increase in minority patient satisfaction in the healthcare industry (Saha et al., 2013; Weech-Maldonado et al., 2012). In other words, the impact of having intercultural communication skills could impact the quality of patient care in the health care industry. Therefore, it is essential that people begin to develop cultural competence skills not only improve their professional future, but to also to create a more inclusive environment for people from diverse backgrounds.

What does intercultural competence mean and how does it relate to intercultural sensitivity? As defined by Chen and Starosta, intercultural competence refers to the potential to interact through cognitive, affective, and behavioral areas with other cultures (2000). Intercultural sensitivity, on the other hand, focuses on the affective aspect of intercultural competence by evaluating an individual's motivation to be involved in cultural interactions (Chen & Starosta, 2000). In other words, intercultural sensitivity refers to a person's motivation in interacting with a culture while intercultural competence looks at the overall ability including cognitive and behavioral aspects as well. Defining these differences is the first step toward implementing culturally meaningful research. Understanding these differences can allow research to focus on specific measurable outcomes of either intercultural sensitivity or intercultural competence. This can then accurately measure people's intercultural skill levels that can be used in research (Chen & Starosta, 2000).

Theoretical Background

Study abroad programs are based on an international experience by visiting a foreign country. Research has shown that study abroad programs enhance student's cultural awareness and cultural competence (De Diego-Lázaro et al., 2020). Also, an improvement in emotional resilience and cultural adjustment have been reported during international study-abroad programs (Earnest et al., 2015). However, many students will not have the opportunity to travel to other countries. Creating cross cultural competence through an online experience, can be more affordable and less time consuming than in person interventions (Ruben, 2017). Some undergraduate university students, due to economic reasons, may not have the opportunity to participate in a study-abroad program. Implementing alternative programs to include people from diverse economic backgrounds may be necessary so that everyone gets the opportunity to

develop intercultural competence skills. Research could further focus on elaborating feasible methodologies that can improve cultural competence in students without the need to leaving their home country.

Collaborative Online International Learning (COIL) aims to join academic institutions from different international backgrounds through virtual platforms in an academic learning experience (Rubin, 2019). Previous literature has found the COIL experience improves student's cultural competence and helps them achieve their academic goals (De Castro et al., 2019; Hackett et al., 2023; Liu & Shirley, 2021; West et al., 2022). Studies report that students improve on intercultural sensitivity, collaborative learning and have a deeper appreciation for technology (Asojo et al., 2019; Niitsu et al., 2022). In other words, COIL projects have been seen to improve both intercultural competence and intercultural sensitivity. Hence, it is important to contextualize the findings of these studies in Canadian and Ecuadorian student populations to evaluate the extent of its generalizability and establish potential areas of improvement.

Hypothesis

For this study, we hypothesized that participation in the COIL project is associated with an improvement in both Ecuadorian and Canadian undergraduate student's cultural competence scores reported using the ISS. The research design is quasi-experimental. Undergraduate students were surveyed during pre and post conditions with the intercultural sensitivity scale (ISS). The results could show possible areas of improvement in COIL programs. As mentioned beforehand, research indicates that study-abroad programs can improve intercultural competence, however for students who cannot travel, the COIL project is an alternative solution (Asojo et al., 2019; Niitsu et al., 2022). Recent studies have evaluated intercultural sensitivity through the ISS;

however, it has not been tested in a population of undergraduate students from Canada and Ecuador (Niitsu et al., 2022). Hence, this paper will explore how the COIL experience between two countries influenced undergraduates' levels of intercultural competence levels measured through the ISS and give meaningful insight into possible areas of improvement in the COIL project.

Method

Participants

The sample consistent in a total of 49 students who were studying health related degrees from a university at Ecuador and a university at Canada. 29 of the participants belonged to the university in Ecuador, while 20 of them were from the university at Canada. A convenience sample method was used since participants were all undergraduate students belonging to neuroscience classes that the professors participating in the COIL taught. All the participants spoke English, although at varying levels, as this was the language of instruction. Gender and age were not considered in the data analysis since only one male participant was involved from the Ecuadorian sample and the age of participants did not notably vary.

Measures & Design

The Intercultural Sensitivity Scale (ISS) was used to measure student's intercultural sensitivity levels (Chen & Starosta, 2000). This scale is a self-report of cultural sensitivity with a total of 24 items. It was translated to Spanish for the Ecuadorian students by the student coordinator at the Ecuadorian university to ensure their comprehension of the questions asked. The ISS was chosen for the purpose of this study since many different countries have also used the scale to measure intercultural sensitivity such as: China, Thailand, Spain, Iran, Chile, United States, and others (Chen & Hu, 2023). This scale was also chosen for the purpose of the study

since it was used in the previous COIL project implemented last year with the same universities, but with a different cohort of students. Data from the previous cohort is not included or discussed in this paper.

The intercultural sensitivity scale is divided into five different sections: engagement, respect, confidence, enjoyment, and attentiveness. These subscales aim to measure a person's intercultural sensitivity through different domains. Participants could receive a score of up to 120 considering all the subscales. Also, each individual subscale has a maximum score participants can receive. Engagement and respect have a total of 30 points, while confidence has a score of 25. Enjoyment and attentiveness are scored out of 15.

Moreover, the items in the scale were scored using a five-point Likert scale (1= completely disagree, 2= disagree, 3= uncertain, 4= agree 5= completely agree). Examples of the items used in the ISS was "I think people from other cultures are narrow minded" and "I am quite confident in myself when interacting with people from different cultures" (Chen & Starosta, 2000). These questions aim to evaluate through the five established domains, a person's reported intercultural sensitivity levels.

Materials & Procedures

Participants from the Ecuadorian university who were enrolled in a neuroscience class were emailed and asked to indicate if they wanted to participate in the COIL project. In other words, participation was optional. Of those participants who answered that they would like to be involved, data was collected relating to why they wish to participate and their English language levels. These levels were divided into 3 categories basic, intermediate, and advanced. It is important to note that their recorded proficiency in English was a self-report measure.

Afterwards, the student coordinators and the professors coordinating the COIL divided students into 10 groups, where each group had 5 members. All the groups had participants from both universities to ensure an intercultural environment.

Later, participants were emailed the survey powered by Qualtrics three days before the start of the COIL project. Daily reminders to fill out the survey were sent to the students through email during a period of three days. Therefore, the survey was completed throughout different times of the day in different conditions such as at home, or at their university campus. At the beginning of the survey, participants were asked demographic questions such as their age and gender. Later, students were required to film a short one-minute video introducing themselves and sharing facts about themselves through the platform Flipgrid, so that other team members could get to know them prior to the beginning of the project. Moreover, an icebreaker activity was organized via Zoom and GatherTown for students of both countries to interact with each other and later explain to them the project they had to complete. Also, the team coordinators from both universities introduced themselves to everyone so that students got to know the professor and student coordinator from the other country.

Furthermore, the requirements of the project were explained. Students had to come up with an innovative product or idea relating to neuroscience. They had to share their idea with the rest of the classmates during the last week of April by creating a five-minute video pitch. Additionally, students had to write a report with the research that supported their project and include an analysis to elaborate on their idea. Throughout the project, participants were expected to meet with their group members to plan how they would complete this task. This was reinforced by making a mandatory check-up meeting with the COIL student coordinator and

professor of either Ecuador or Canada and explain the progress of their project. Team members from Ecuador and Canada communicated via Microsoft Teams and WhatsApp to organize weekly meetings.

Afterwards, participants were tested using the same survey three days prior the end of the project to evaluate differences between the scores reported during the pre and post conditions. Once again, students received daily reminders to fill out the questionnaire powered by Qualtrics. Participants were able to complete the questionnaire in the location of their preference. Finally, each group's project was evaluated during a virtual meeting through Zoom with a diverse set of panelists to receive feedback. Three panelists from diverse countries were involved in the feedback process and had a period of three minutes to ask questions to the group members about their product. Each group had two minutes to answer the questions that the panelists asked. After all groups presented, the panelists decided on the winning team and product. A monetary reward was given to each member of the winning team.

Results

For the study, we hypothesized that if students participate in the COIL project, then their cross intercultural sensitivity levels would significantly increase through scores reported in the ISS. The hypothesis was tested using a Student Wilcoxon rank. Results indicate no significant relationship between intercultural sensitivity levels and exposure to the COIL project. Although the mean score in the post-condition increased, there are no statistically significant changes observed. Through the Student Wilcoxon analysis, the total calculated score including all the subscales was found to be $z=-1.56$, $p>0.005$. Additionally, descriptive analysis reflects a total mean score of 98.17 for the participants during the pre-condition and a standard deviation of 8.09

(View table 1). Meanwhile, a mean score of 100.13 was reported for the post-condition and a standard deviation of 7.66 was calculated (View Table 1). In other words, there was limited change observed in the total average scores during the pre and post condition (View Appendix A).

Interestingly, the confidence subscale is the lowest average score reported by the Ecuadorian students through the ISS. The total possible score to be obtained is 25, while the average is approximately 18. This means that there are 7 points remaining to reach the highest possible score in the subscale. This differs from the rest of the subscales measured. For example, in enjoyment, the total possible score is 15, while the average is approximately 12. This leaves 3 points of improvement in contrast to 7. Likewise, this can be observed in the respect category since the total score can be 30 and the average lies around 27 points. Through a descriptive analysis of the data, these differences can be observed and compared (View Table 1).

Moreover, a more detail analysis of the results shows that the subscales also have no significant results. A Student Wilcoxon rank was also used to determine the results of the subscales. For the engagement category, results indicate $z=0.821$, $p>0.05$. Likewise, for the respect scale, results demonstrate $z= -1.507$, $p>0.05$. The remaining sections reflect similar results as engagement and respect, concluding that there are no observable effects reported after the COIL within the subscales of the ISS (View Table 2).

On the other hand, post-hoc results brought up a possible hypothesis that English levels reported by participants could be related to confidence levels. Out of the 29 students who originally competed the ISS survey, only 24 students indicated their English levels. 16 participants reported to have an intermediate level of English while 9 students reported to have

advanced skills. An independent t-test was conducted to test this hypothesis and a Cohen's d was used to establish the effect size. During the precondition results indicate $t(23)= -0.80$, $p=0.43$. Similarly, during the post conditions results show $t(23)=-0.86$, $p=0.40$. In other words, there are no significant differences observed between people who report to have advanced or intermediate English skills, and their confidence levels for both pre and post conditions (View Table 3). Therefore, the post-hoc hypothesis is also rejected due to no relationship between the variables measured.

Table 1. ISS Descriptive Results Before and After COIL

	Pre		Post	
	Mean	Standard Deviation	Mean	Standard Deviation
Engagement	24.5	2.99	25.27	2.49
Respect	26.72	2.21	27.17	1.95
Confidence	18.13	2.83	18.79	3.28
Enjoyment	12.89	1.54	12.93	1.60
Attentiveness	11.24	1.66	11.69	1.50
Total	98.17	8.09	100.14	7.66

Table 2. ISS Results Student Wilcoxon Test

Subscale	z	p
Engagement	-0.82	0.42
Respect	-1.06	0.29
Confidence	-1.51	0.13
Enjoyment	-1.00	0.32
Attentiveness	-1.56	0.12
Total	-1.56	0.12

Table 3. Results from Independent T-test Between Intermediate versus Advanced English Level and Confidence Subscale

	Pre Condition Confidence	Post Condition Confidence
t	-0.80	-0.86
p	0.43	0.40
Cohen's d	-0.36	-0.36

Discussion

The current study focused on researching the role of the COIL project in developing intercultural sensitivity skills in a sample of undergraduate university students. This is relevant since previous literature has found that cultural competence is an essential trait that employers look for in employees (Jenifer & Raman, 2017). Therefore, it may be important to develop this skill in university students. Also, previous literature has shown that COIL projects can improve student's intercultural sensitivity (Asojo et al., 2019; Niitsu et al., 2022). These studies were not tested comparing an Ecuadorian and Canadian sample; therefore, our findings reflect data from these populations. Results indicate that participating in the COIL project does not alter student's cultural competence levels measured through the ISS. Previous studies do not resonate with our findings since our results indicate a null effect. Therefore, possible areas of improvement and new areas of evaluation are discussed.

Implications

Based on our results, this study has implication in relevant topics relating to intercultural sensitivity and university students. Our results indicate no change in intercultural sensitivity before and after the COIL project. It may be the case that completing the group projects in the COIL experience is not enough to improve people's intercultural sensitivity skills. Therefore, students may need to participate in seminars or group discussions about culture, that are part of the curriculum or syllabus of the class, to increase their skills. In this study, participants only interacted about culture one time through a Flipgrid activity. However, previous literature has found that Flipgrid activities may not improve collaborative online learning experiences (Stoszkwoski & Collins, 2021). It may be necessary to include more personalized and interactive experiences for students to feel like they are truly engaging with another culture. For example, it

may be necessary to organize weekly Zoom discussions where students from either university present on a relevant topic like food, music, or art in their culture. Spaces for insightful dialogue and interpersonal connection could be emphasized in future COIL projects that go beyond activities in Flipgrid. Students could also be asked by professors to mention one fact they learned about their culturally diverse peers each week. This way, more topics relating to culture could be discussed throughout the entirety of the COIL project.

Another possible alternative could be to change the topic of the COIL final project students need to complete. Students could possibly be required to submit a project that not only is innovative and relates to neuroscience, but that also has a cultural component to it. Cultural neuroscience can be defined as studying the relationship between culture seen through values or beliefs, and its connection to neuroscience or human anatomy (Han et al., 2013). Students could investigate more on the topic of cultural neuroscience and create an innovative project that incorporates this idea. Research relating to culture would need to be necessary to conduct their project, and may therefore, enhance dialogue and knowledge pertaining to culture.

Moreover, results show that English skills and confidence levels do not seem to correlate. Therefore, the reason for which confidence levels in Ecuadorian students is lower on average in comparison to other subscales remains unknown. It was hypothesized that a possible explanation of lower confidence scores could be due to language barriers from the Ecuadorian students since the project was completed in English and not Spanish. However, according to the results, English abilities, seem not to influence confidence levels in cultural interactions. Therefore, this area still needs to be explored to determine what interventions could be placed to improve confidence levels throughout the COIL and what is influencing lower averages of confidence levels in

Ecuadorian students in comparison to other subscales. Previous literature does not resonante with

our findings since authors have seen that language level can influence intercultural sensitivity

(Engle & Engle 2004; Lee Olson & Kroeger, 2001).

It may be the case that confidence in relating with people from other cultures takes more

time to develop, therefore, the time students had was not enough to make connections with

students from other cultures. It may also be the case that reporting lower levels of confidence

may be a positive trait. Some authors argue that moderate levels of confidence may relate to

intellectual humility and leadership (Kidd, 2015; Oyer, 2015; Wills, 2021). Possessing average

levels of confidence interactions may be related to humbly accepting one's limitations in

knowledge on what to say and how to behave with other cultures. In other words, lower

confidence levels may be a positive trait in students that relates to leadership and humbleness by

being able to welcome the idea that one can still learn from intercultural interactions. In

summary, the null relationship between confidence scores and English skills may imply that

there are other individual, cognitive, or social processes influencing confidence levels in the

Ecuadorian sample.

Limitations

The study had limitations based on the sample and confounding variables that could have

influenced the results. Firstly, there may be a sampling limitation due to selection bias as

students from the Ecuadorian university, were not required to participate in the COIL project.

Only the students who wished to participate in the project and reported to feel comfortable in

their English skills, were involved. However, all the students from the Canadian university were

required to participate in the COIL project. This difference could have influenced the results

from both sides, since participants we're chosen based on different requirements. This may have led to an inadequate randomization of the participants and may have left participants who could have improved in their cultural skills out of the project.

Also, there may be limitations based on sample due to lack of variability in gender and area of study. There was only one individual that identified as male who answered the survey from the Ecuadorian side, which limits the analysis that can be made by comparing genders. Additionally, students from other STEM areas did not participate in the COIL, therefore, it could be possible that results change according to differences in student's area of study. A lack of variety in both gender and areas of study, are relevant due to a lack of generalizability of the results.

Secondly, the study may have a design confound since the different location students took the survey was not considered, creating uncontrolled variability. Some students took the survey at home while others could have taken it at their university campus. The differences in context, could have influenced the results reported by the participants due to possible external distractions such as noises or weariness. In other words, the location in which the student's took the survey could have influenced their responses.

Thirdly, there may have been a possible social-desirability effect with the population. It may be the case that students self-reported that they excel in interactions with other cultures, to become more appealing, despite the anonymity in the survey. Students knew that they were submitting these surveys for the COIL project, therefore, they could have believed their responses could have influenced their outcomes in class. Consequently, responses could have been adapted unintentionally due to a social desirability effect. For this reason, other measures

apart from surveys should be considered when evaluating cultural competence with the aim to get a valid score of cultural competence level without the influence of external effects.

Finally, results from the Canadian students were not included or analyzed in this report. It may be the case that intercultural sensitivity scores did improve for the Canadian students. Therefore, there is still data lacking from the investigation that could alter the overall outcome of the results. It may be insightful to compare scores from both academic institutions to see if there are any visible differences. Specifically, it would be interesting to compare the results between confidence levels in Canadian and Ecuadorian populations to measure any differences. Hence, when results from the other students are included, there will be more data available for the analysis and report of this investigation.

Future directions

Future research should focus on implementing a control group that does not participate in COIL. This way, results from their intercultural sensitivity levels could be compared from those students who participated in COIL. It may be the case that the participants who chose the COIL project from the Ecuadorian university, already had elevated scores of intercultural sensitivity, therefore, they chose to participate in the COIL due to their knowledge with intercultural interactions. This could create a bias in the selection process, and possibly alter results. Nearby future directions for our team are to collect data from a control group that did not participate in the COIL project, to compare their results with the ISS.

Additionally, future research could benefit from implementing virtual reality methods into the COIL experience. Previous literature has found that students intercultural sensitivity

levels increase after using virtual reality (Hagley, 2020; Li et al., 2020). Therefore, there could be beneficial outcomes into incorporating this methodology to the curriculum for students to have a more immersive experience. Virtual reality has been seen to expose students to a more realistic self-assessment of their intercultural competence skills (Akdere et al., 2021). This may be beneficial in the context of this study since it will allow students to accurately represent their cultural competence levels. VR has also been shown to potentially improve student's score in the subscale of engagement in the ISS (Gao et al., 2021). Implementing virtual reality seems to be beneficial in improving student's intercultural sensitivity levels. Hence, it may be useful to apply this knowledge in the context of COIL projects.

Moreover, research should investigate how personality measures can influence the results reported by participants in the ISS. Since confidence levels seem not related to self-reported English levels, it may be the case that personality traits can influence confidence levels in participants. For example, understanding the relationship between extroversion and confidence in interacting with people from different cultures, could be beneficial. Previous literature has found a correlation between extroversion, and cultural intelligence using the Four Factor Model of Cultural Intelligence Scale, Big Five Personality Traits and HEXACO Personality Traits (Ang et al., 2006; Nel et al., 2015; Shu et al., 2017). Other findings have found a relationship between emotional intelligence and cultural intelligence (Van Dyne et al., 2012) By testing these variables, we could observe the extent to which personality features can influence intercultural interaction skills.

Furthermore, The Big Five Personality Trait scale has one main subscale labelled as "Openness to Experience" which measures a person's capacity to think divergently and be

creative (McCrae & Greenberg, 2014). The relationship between Openness to Experience and cultural competence could be further explored in the context of COIL. This way, it could be possible to predict what personality types tend to excel and be more comfortable in intercultural interactions, opposed to other personality types. This may be helpful to adapt activities used in COIL to different personality styles in students. Hence, people from a variety of personality types could have an enjoyable experience, while also improving their cultural interaction skills. It could also give insight toward why scores relating to cultural competence may not improve as personality traits are relatively stable and tend not to change throughout time (Jayawickreme et al., 2020).

Also, future directions should consider evaluating cultural competence through other concepts such as cultural intelligence (CQ) and cultural humility (CH). Cultural intelligence can be explained as the capacity to adapt interpretations and behaviors according to a diverse set of cultural contexts (Earley & Ang, 2003). CQ differs from cultural competence since, like other forms of intelligence, it focuses on a person's ability to adapt to unknown and ambiguous situations that require metacognition, in contrast to cultural competence that only focuses on acquired personal abilities (Majda et al., 2021). In other words, cultural competence emphasizes in acquiring new abilities relating to intercultural interactions, while cultural intelligence is an individuals' natural ability to adapt to unknown situations.

This study has not explored the benefits of investigating the concepts of cultural intelligence through the Four-Factor Model of Intelligence which involves a more detailed analysis of different cultural aspects involved in interactions such as: metacognitive CQ, cognitive CQ, motivational CQ, and behavioral CQ (Li, 2020). In other words, cultural

intelligence, as opposed to intercultural sensitivity, involves studying more aspects of the faculty to adjust to new cultural interactions including thoughts, affect and behavior. It may be the case that our research focused only on affective aspects, or intercultural sensitivity, and did not consider a more holistic approach incorporating behavioral or cognitive processes involved in cultural interactions. A recent study has found that CQ improved after undergraduate students from Taiwan and the United States participated in a COIL project ` Hence, it may be the case that another scale or measure may be more effective in capturing differences before and after the COIL.

Finally, recent studies have been transitioning from using the term cultural competence, to the construct of cultural humility (Abbot et al., 2019; Danso, 2018; Fisher-Borne et al., 2014). Some authors state that multicultural interactions should go beyond trying to develop competency, or skills and attitudes, but rather incorporate critical consciousness of ourselves and the world around us (Kumagai & Lypson, 2009). Melanie Tervalon and Jann Murray Garcia developed the concept of cultural humility emphasizing that cultural humility involves flexibility to learn from diverse cultures by critically observing and analyzing one's behavior and thoughts regarding cultures (Tervalon & Murray- Garcia, 1998).

The authors discuss in their paper that cultural competence is an acquired skill that requires a person from an external culture to excel in interacting and understanding other cultures, therefore it is a finite ability. However, this stance does not consider the complexity of cultures and how biases can influence individuals' perceptions on culture (Tervalon & Murray-Garcia, 1998). For example, the authors mentioned that during their practice they observed how an African American nurse did not give analgesics to a Latino patient moaning in pain, and when

consulted onto her motives by a Latino doctor, she mentioned that in her academic course of cultural competence she was taught that Latino patients over complain about physical pain, therefore, she "knew" not to give him more medicine (Tervalon & Murray- Garcia, 1998). For this reason, it may be important to consider how attributing an individual's behavior uniquely to their culture, may create biases. For this reason, remaining mindful as to how individual biases can have a negative influence on behavior or perception toward others from different culture should be fundamental.

In COIL experiences, cultural humility has also gained popularity. Authors cite that cultural humility and openness to experience are essential characteristics to the success of the COIL project (De la Garza, 2021; Potter & Bragadóttir, 2019). Future research could aim to research not how to improve one's cultural competence, but instead to measure the relationship between individuals' cultural humility and overall satisfaction with working in multicultural groups. Recent scholars have developed a tool to assess an individual's cultural humility levels (Fonda et al., 2021). By understanding if culturally humble individuals are more likely to enjoy COIL and make the experience enjoyable and inclusive for culturally diverse peers, it can give researchers meaningful insight toward the positive impact of having cultural humility. This way, interventions can be made to foster cultural humility to promote inclusive and enjoyable intercultural experiences for people from all cultural backgrounds.

Further research could also investigate how cultural humility levels operationalized through Fonda's Cultural Humility Scale, compare to confidence levels measured through the ISS (Fonda et al., 2021). This way, it could be possible to determine if the lower confidence levels reported in the ISS, relate to cultural humbleness and the willingness to learn from

different cultures. If this were the case, it may beneficial that students score moderately in the confidence subscale of the ISS. This could influence the interpretation of the results reported in the ISS and give meaningful insight as to the relationship between confidence and cultural humbleness.

Conclusion

This study focused on understanding the extent to which the COIL project could influence and improve university student's cultural sensitivity levels. Through the ISS, individuals were able to establish their cultural sensitivity levels for both pre-and post-conditions. Students were asked to complete the survey two times, the first being before the project began and the second being before finishing their final presentation. The results indicate that there is no relationship between participating in the COIL project and improving one's intercultural sensitivity levels. Additionally, results indicate that there is no relationship between an individual's English level and their confidence score in the ISS subscale. This is relevant because it shows many possible areas of improvement. On the one hand, it may be that the lack of a control group or differences in personality characteristics could have influenced the results. On the other hand, it may be that the ISS in our study did not accurately capture intercultural abilities, therefore other concepts such as cultural intelligence and cultural humility can better operationalize cultural skills through measures like the Four-Factor Model of Cultural Intelligence or Foronda's Cultural Humility Scale (Earley & Ang, 2003; Fonda et al., 2021). There may be the need to use different measures to assess the overall ability of an individual to create positive cultural interactions. There may also be the need to use different types of interventions such as incorporating virtual reality and more engaging discussions in order to

stimulate intercultural experiences in students. Despite the controversy of the concept of cultural competence, it is important to consider that having skills to interact with different cultures is essential. Research should aim to understand what personality or individual characteristics influence the outcome of positive intercultural interactions as well as what methodologies could be included to improve intercultural experiences. By increasing positive intercultural interactions, we can create inclusive and equitable spaces in educational, clinical, and corporate spaces.

Appendix A: Bar Graph of Average Scores in the Intercultural Sensitivity Scale During Pre and

Post Conditions in Ecuadorian Students
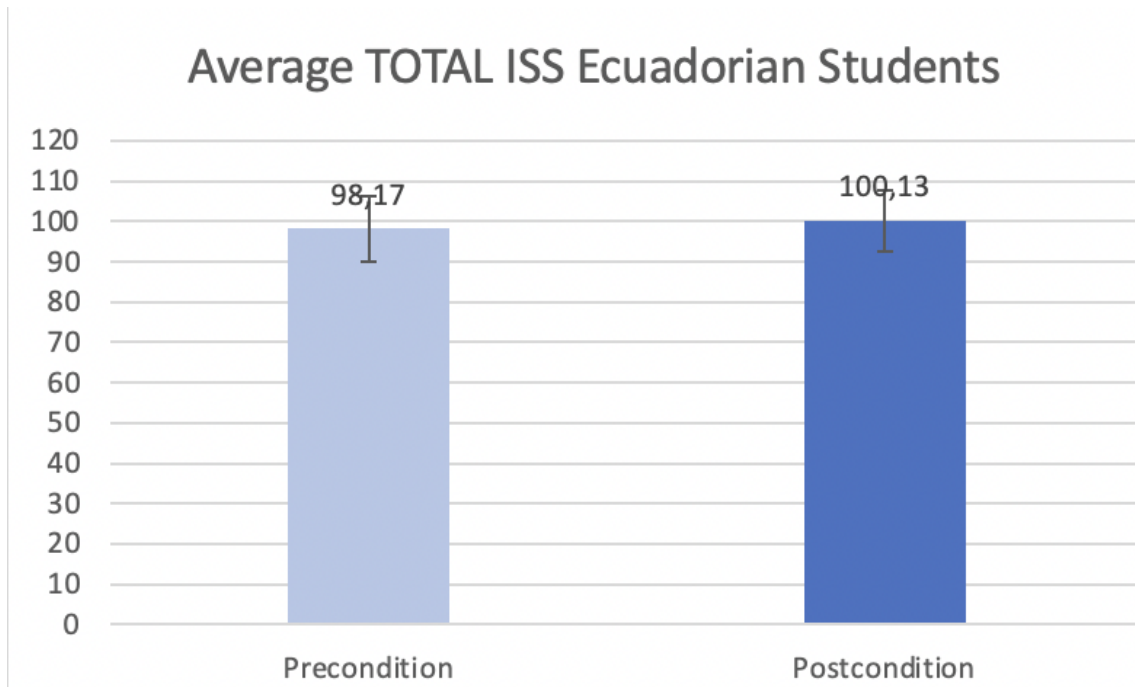
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