

The Impact of International Service-Learning on Students' Development in Intercultural Sensitivity

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Abstract

We examined the impact of international service-learning (ISL) on students' development of intercultural sensitivity. Participants were undergraduate students of a Hong Kong university ($N = 132$) who enrolled in a credit-bearing ISL course with service projects in Africa, Southeast Asia, and Mainland China. The research is primarily qualitative but also employs quantitative methods. Students were asked to write their views about the host country both before and after their service trip. Through thematic analysis of the responses, we developed a framework for intercultural sensitivity with four levels. Categories adopted from literature about intercultural competence or development were used to code the data set. Results revealed statistically significant differences in levels of intercultural sensitivity before and after ISL experience. Postexperience data further showed higher levels of intercultural sensitivity in the Southeast Asia and Africa groups than in the Mainland China group. Potential factors and implications are discussed.

Keywords: international service-learning, higher education, intercultural sensitivity, transformative learning



Preparing young adults to become agents of a more inclusive and sustainable world entails cultivating intercultural competence, a multidimensional capacity that includes understanding other worldviews, appreciating different cultures, and being able to communicate effectively and behave appropriately in situations of diversity (OECD, 2018). Education plays an important part in this process, and it is clear from the widespread inclusion of intercultural competence among graduate attributes and the proliferation of practices in international education that universities are aware of their role and responding to the challenge (cf. UNESCO, 2006).

Part and parcel of intercultural competence is intercultural sensitivity. This term refers to the affective or emotional dimensions of intercultural competence, which are intertwined with its cognitive and behavioral elements. Defined as "an individual's ability to develop a positive emotion towards un-

derstanding and appreciating cultural differences that promotes an appropriate and effective behaviour in intercultural communication" (Chen, 1997, p. 5), intercultural sensitivity builds upon intercultural awareness (cognitive) and leads to the acquisition of intercultural competence (behavioral).

Closely related to community-engaged learning is service-learning, an experiential pedagogy widely adopted in higher education for its potential to nurture civic responsibility along with academic, personal, and social outcomes (Conway et al., 2009). Service-learning programs with projects in foreign settings, or international service-learning (ISL), adds intercultural competence and global awareness to the prospective outcomes of service-learning (Bringle & Clayton, 2012; Yang et al., 2016). ISL programs provide students with immersive experiences in host communities overseas, in the process generating opportunities to directly learn about other cultures, to contemplate and experience issues faced by

developing countries, and to communicate, interact, and collaborate in intercultural settings (Curtis, 2019; Rodríguez-Izquierdo, 2021; Short & St. Peters, 2017).

Educators argue that ISL can be an impactful pedagogy for cultivating intercultural competence (Bringle et al., 2011; Deardorff, 2009; Hartman & Kiely, 2014). There are ample studies reporting ISL's positive impact on intercultural competence. Most of these draw from Western contexts and rely on self-reports from quantitative instruments or qualitative interviews. Thus far too, studies have been mostly based on single programs or small participant sample sizes. Moreover, some studies have yielded mixed results (e.g., De Leon, 2014; Short et al., 2020). In this regard, ISL practitioners note from their experience that participating in ISL programs can sometimes fall short of transformative learning, or can produce results that run counter to intercultural sensitivity, such as reinforcing visiting students' stereotypes or superiority complex (Crabtree, 2008; Kiely, 2004; Simonelli et al., 2004).

This study will contribute to the existing body of ISL literature through research based on a large, multisite ISL program involving students from diverse academic disciplines. Developed from a non-Western context, the research can be used to corroborate studies from Western contexts. More importantly, our study offers an alternative to studies based on self-reports. Analyzing students' pre- and postexperience views about host countries constitutes a more direct and authentic assessment of development in intercultural sensitivity.

In this instrumental case study, we set out to explore the impact of ISL on students' development in intercultural sensitivity based on an ISL program offered in the 2023–2024 academic year. The program had 132 undergraduate students enrolled and service projects in three regional locations. Qualitative methods were used to analyze and code written tasks in which students expressed their views about their host countries before and after the ISL trip. Three research questions (RQ) are investigated:

RQ 1: What can ISL students' views about the host country and its people reveal about their intercultural sensitivity?

RQ 2: Do ISL students' views about the host country and its people change after their ISL experience?

RQ 3: Are there differences in intercultural sensitivity development between groups that served in different sites?

Literature Review

This section focuses on the importance of intercultural sensitivity and how ISL contributes to developing intercultural sensitivity.

As mentioned, intercultural sensitivity may be seen as the affective component of intercultural competence. It springs from intercultural awareness and paves the way for behaviors and skills needed to communicate and interact effectively and appropriately in intercultural contexts. Intercultural sensitivity enables students to better understand and appreciate diverse perspectives, thus reducing stereotypes about others and avoiding misunderstandings and conflicts that easily arise in intercultural interactions (Furcsa & Szaszko, 2022). At the same time, intercultural sensitivity strengthens students' ability to adapt to different environments (Gonzales, 2017). The increasing diversity in day-to-day settings, including workplaces and virtual spaces, makes intercultural sensitivity essential for students' professional development and future readiness (Jones, 2022). By boosting positive attitudes toward cultural diversity, fostering students' intercultural sensitivity can contribute to more inclusive and fair societies (Bennett & Bennett, 2004).

Concepts and frameworks from the broader field of cultural studies are helpful for understanding aspects and degrees of intercultural sensitivity. For instance, Hall's (1976) cultural iceberg model uses the image of an iceberg as a metaphor to highlight how culture has surface-level elements that are readily visible, such as customs, language, and cuisine, which are like the tip of an iceberg, and hidden elements, such as values, beliefs, thought patterns, and social norms. The latter are deeper elements of culture that require more exposure and sensitivity to recognize (Yang et al., 2016).

Hall's iceberg model reminds us that cultures are complex, living realities that resist the kind of simplistic or generalized views that lurk behind stereotypes. Stereotypes

can affect how individuals are perceived and judged, leading to the exaggeration of between-group differences and the minimization of within-group differences (Taylor et al., 1978). Intercultural sensitivity calls for more sophisticated and grounded perception of other cultures. Likewise, it entails better capacity to appreciate cultures. In this regard, the distinction between an asset-based approach versus one that is deficit-based is relevant to intercultural sensitivity. The latter focuses on the shortcomings, weaknesses, and deficiencies of a given community, often leading to stereotyping and discrimination (Button, 1977). In contrast, an asset-based view recognizes the strengths, resources, and positive attributes of the host country, emphasizing the value and richness of cultural, linguistic, and literacy practices (Reyes & Norman, 2021). An asset-based approach in understanding cultures or countries one is exposed to entails openness and respect toward others and is in line with intercultural sensitivity.

Another useful framework is the developmental model of intercultural sensitivity (DMIS), which conceptualizes development in intercultural sensitivity as a progression from ethnocentric to ethnorelative postures (Bennett & Hammer, 2017). To elaborate the opposite poles of DMIS, Sumner (1906) defined ethnocentrism as seeing "one's own group [as] the centre of everything and all others are scaled and rated from it" (p. 15). Judging other cultures based on the standards and values of one's own culture unmasks a sense of cultural superiority and is an ethnocentric attitude that shows limited intercultural sensitivity. In contrast, ethnorelativism is characterized by openness to and acceptance of cultural differences. Individuals with ethnorelativist orientation are able to acknowledge and respect diverse cultural norms and values (Bost & Wingenbach, 2018). They are also more capable of adapting to cultural differences, integrating diverse perspectives, and engaging in intercultural communication (Hammer, 2015).

Turning to studies relating intercultural sensitivity and ISL programs, Nickols et al. (2013) is a qualitative study based on reflective journals and focus groups with American students ($N = 9$) who took part in an interdisciplinary ISL course. The authors reported that although collected data revealed apprehensions and challenges students faced in unfamiliar contexts, immer-

sive experiences in the African host country enhanced students' cultural awareness and sensitivity. A similar study by Booth and Graves (2018) analyzed reflective artifacts of ISL nursing students ($N = 11$) and concluded that the short-term project led to various gains in intercultural competence, made manifest among other things in "awareness of community needs, decreased stereotyping, [and] increased confidence in working with culturally diverse populations" (p. 108). Another qualitative study by Wall-Bassett et al. (2018) employed Campinha-Bacote's cultural competency model (2002) to investigate the impact of an interdisciplinary ISL program on students' cultural awareness and competence ($N = 8$).

De Leon (2014) is a quantitative study of the effects of an intensive intercultural service-learning program on students' intercultural competence. Through pre- and postassessments using constructs from two psychometric measures, the Cultural Intelligence Scale (Van Dyne, 2008; Van Dyne et al., 2009) and the Intercultural Sensitivity Scale (cf. Chen & Starosta, 2000), De Leon's study yielded modest results: Although statistical analysis confirmed that service-learning had a significant positive effect on students' intercultural strategy and action, the effect was not significant in terms of intercultural knowledge, motivation, or sensitivity. The author suggested that future qualitative studies based on student artifacts and postexperience interviews could help clarify her findings.

Two related studies were developed by Short and associates from an ISL program in the health field. The first one, Short and St. Peters (2017), also used Van Dyne et al.'s (2008) Cultural Intelligence Scale in a qualitative study of pretest-posttest design involving students of occupational therapy ($N = 12$). They reported that the ISL program enhanced students' intercultural competence in all four factors measured in the Cultural Intelligence Scale:

- metacognitive, or consciousness/awareness during interactions;
- cognitive, or knowledge of norms, practices, and conventions;
- motivational, or the capacity to direct attention and energy toward cultural differences; and
- behavioral, or appropriate verbal and nonverbal actions (cf. Van Dyne, 2008).

The authors provided further support for ISL's efficacy by comparing their findings with the results of short-term study tours. Reporting that short-term study tours did not have the same impact on participants' cultural behavioral competence, Short and St. Peters noted that service-learning provided students with more opportunities for in-depth interaction: "Students interacted with members of the host country, as well as translators, [which] required behavioral competence in working cross-culturally to achieve a goal [whereas] study tours often fail to provide intimate interaction with members of the host country" (p. 11).

Short and Peters revisited their 2017 study with a mixed-methods study conducted in 2020 to examine the long-term impact of ISL on students. Using the Cultural Intelligence Scale combined with written reflections collected at four intervals in a span of 3 years, Short et al. (2020) found that although ISL clearly had a significant short-term impact on cultural competence, significant long-term impact was seen only in the domain of metacognition. From a longitudinal perspective, other factors of the Cultural Intelligence Scale were above baseline levels but not statistically significant. Short et al. thus recommended "additional experience to solidify" ISL's positive effects on students. Notwithstanding, what Van Dyne (2008) explained about the metacognitive factor of the Cultural Intelligence Scale is worth noting. Accordingly, it is

a critical component for at least three reasons. First, it promotes active thinking about people and situations when cultural backgrounds differ. Second, it triggers critical thinking about habits, assumptions, and culturally bound thinking. Third, it allows individuals to evaluate and revise their mental maps, consequently increasing the accuracy of their understanding. (p. 17)

In recap, studies offer support for ISL's contribution to students' cultural competence, of which intercultural sensitivity is an important part. However, mixed results and the reliance on self-reports in both quantitative and qualitative studies necessitate alternative approaches. In what follows, we present a qualitative study that uses a direct form of assessment with a large participant sample size compared to other qualitative studies.

Research Method

Context of the Study

We performed an instrumental case study based on a multisite ISL program offered in a large, public university in Hong Kong. Service-learning was institutionalized in the university in 2012, becoming a mandatory requirement in the undergraduate curriculum across disciplines. Service-learning courses are academic credit-bearing courses and typically have three components: teaching and project preparation, during which students learn concepts and master skills linked to the service that they will carry out; service project implementation in a local or foreign community; and reflection and project evaluation, during which students take stock of their process of learning and service experience. Over 4,000 undergraduates enroll in service-learning courses each year, choosing from more than 70 service-learning courses offered by different departments. About a third of service-learning courses involve projects in cross-border or overseas locations. In academic year 2023–2024 alone, approximately 1,400 students (or 35% of students enrolled in service-learning courses) participated in ISL projects. ISL project locations include various sites in Africa, Asia, and Mainland China. A note is in order here about ISL projects in Mainland China. Although Hong Kong is part of China and shares similar racial demographics, projects in Mainland China tend to constitute cross-border experiences for local Hong Kong students due to historical and linguistic factors creating culturally distinct environments.

Most service-learning courses in the university are general education courses. The present study is based on an ISL course offered by the Department of Computing to students of any discipline. As an instrumental case study, our research uses the ISL course in question to gain insight into a particular phenomenon ("Instrumental Case Study," 2010), namely ISL's impact on students' intercultural sensitivity.

An ISL Course on the Digital Divide

The title of the ISL course in question is *Technology Beyond Borders: Service Learning Across Cultural, Ethnic and Community Lines*. The academic content of the course covered basic principles of artificial intelligence (AI), programming knowledge, and ethical issues, zeroing in

on the problem of the digital divide and its impact on communities beyond Hong Kong. Data used in this study are from the course offered in academic year 2023–2024. The class had a total enrollment of 132 students. All students were allocated to one of the program's five project locations in Africa (South Africa and Tanzania), Southeast Asia (the Philippines and Vietnam), and Mainland China.

The ISL course was selected for the study for several reasons. It had a large enrollment number compared to other ISL courses, ensuring a more than adequate sample size. It involved multiple service locations, enabling comparison between groups that served in different locations. Moreover, the ISL course was open to students of all majors, meaning that enrollees were from diverse academic disciplines. The course is further described below.

Prior to their ISL trips, students attended lectures and trained and prepared for their projects in Hong Kong. Students learned about knowledge of global leadership, the digital divide, intercultural competency, and AI. They worked in small groups of three to four persons for the class activities and service projects. Each group designed a proposal and developed teaching materials for a 5-day workshop on AI for primary or secondary school students in the host countries. An important part of students' pretrip preparation was cultural activities delivered face-to-face or online to introduce students to common phrases and basic aspects of the culture in their service destination.

Turning to the service component, the ISL projects consisted of at least 40 hours of direct service in which students delivered in the host countries the AI workshops they designed and developed in Hong Kong. Workshop participants learned about object recognition, machine learning, and block programming through practical lessons and hands-on activities. The community partners of the ISL program were NGOs, universities, and primary or secondary schools in the host countries of the service projects. At the Southeast Asian sites, local university students were recruited to support the service delivery. They worked closely with Hong Kong students and helped overcome language barriers by acting as interpreters. To enhance cultural learning, a day was allocated in the ISL trip itineraries for students to visit places of cultural or historical interest.

Throughout the service trip, the teaching team organized at least three structured reflection sessions that tackled various topics such as service performance, intercultural sensitivity, leadership, the digital divide, the NGO, and the served community.

Participants

Approval for the study was granted by the university's Human Subjects Ethics Sub-Committee (Reference No. HSEARS20240219006). The target participants of the study were undergraduate students from different disciplines who enrolled in the ISL course explained above. The participants' distribution according to gender, academic discipline, and ISL project location are shown in Table 1.

Data Collection

The study is primarily a qualitative research study, which collects descriptive data and focuses on understanding the perspectives of the subjects being studied (Bogdan & Biklen, 2007).

The service trips of the ISL course lasted for 10 days each and took place in January 2024. Prior to the ISL trip, students were assigned a short, open-ended task with the following instruction: "In about 100 words, describe your view of the country/region and the people *you are going to serve*." This task was performed online during one of the classes. Students were given a QR code to input their answers in English or Chinese, and had about 30 minutes to complete the task. To encourage free sharing of honest opinions, the task was ungraded, voluntary, and anonymous. On the last day or within 2 weeks of the service trip, students performed the same written task with similar instructions: "In about 100 words, describe your view of the country/region and the people *you served* in the service-learning project."

The final number of written entries was 172: 81 pre-ISL and 91 post-ISL. The breakdown of the data set is shown in Table 2.

Students' views of the host country as documented in the pre and post written tasks served as the primary data source of the study. The purpose of the task, which in itself was a reflective activity, was explained to students, and their consent to use their answers for evaluation and research was obtained both verbally and in writing.

Table 1. Distribution of Participants (N = 132)

Distribution by	Mainland China		Southeast Asia		Africa	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Service Location	29	100.0	46	100.0	57	100.0
Gender						
Female	8	27.6	14	30.4	28	49.1
Male	21	72.4	32	69.6	29	50.9
Faculties						
FB	7	24.1	11	23.9	7	12.3
FCE	3	10.3	5	10.9	13	22.8
FENG	16	55.2	21	45.7	17	29.8
FH	0	0.0	0	0.0	3	5.3
SD	0	0.0	1	2.2	2	3.5
SHTM	0	0.0	0	0.0	2	3.5
FHSS	2	6.9	4	8.7	8	14.0
FS	1	3.5	3	6.5	5	8.8
SFT	0	0.0	1	2.2	0	0.0

Note. FB = Faculty of Business; FCE = Faculty of Construction and Environment; FENG = Faculty of Engineering; FH = Faculty of Humanities; SD = School of Design; SHTM = School of Hotel and Tourism Management; FHSS = Faculty of Health and Social Sciences; FS = Faculty of Science; SFT = School of Fashion and Textiles.

Table 2. Summary of Responses to Question About International Service-Learning Location

Service location	Total no. of students	Type of entries	No. of entries (Response rate)
Mainland China	29	Pre	18 (62.1%)
		Post	16 (55.2%)
Southeast Asia	46	Pre	29 (63.0%)
		Post	39 (84.8%)
Africa	57	Pre	34 (59.6%)
		Post	36 (63.2%)
Total	132	Pre	81 (61.4%)
		Post	91 (68.9%)

Data Analysis

Written responses were subjected to thematic analysis, Clarke and Braun's (2017) method for identifying, analyzing, and interpreting patterns of meaning ("themes") within qualitative data (p. 297). Data analysis in the study adhered to the six steps outlined in Braun & Clarke (2021): familiarizing oneself with the data; systematic data coding; generating initial themes; developing and reviewing themes; refining, defining, and naming themes; and producing a final report. The steps are meant to guide systematic and rigorous interaction with the data but are not intended to be strictly followed in sequence since thematic analysis is a recursive and iterative process of moving back and forth between phases (Braun & Clarke, 2021).

The research process for the study was as follows. In the initial stage, two members of the research team who were directly involved in the ISL course and accompanied students on the service trips read all answers to the written tasks to get a sense of the whole (data familiarization). Next, a third party helped remove all identifiers of the data, such as indicators of service location and whether the task was performed pretrip or posttrip. Anonymized, the pre and post data were mixed together and each entry was assigned an ID number. The combined data set was returned to the research team for thematic analysis. Next, four members of the research team engaged in discussion to discern themes or patterns that emerged from the data set (generating initial themes). Three themes called to mind existing frameworks in literature, namely, deep and surface cultural elements (Hall, 1976), asset-based approach (Button, 1977), and ethnorelative versus ethnocentric views (Bennett & Hammer, 2017). We further observed that some entries contained inaccurate or erroneous views, whereas others were more factual or circumspect in their statements about the host country or culture. A preliminary framework for intercultural sensitivity with four dimensions was thus developed through collaborative qualitative analysis (developing and reviewing themes). The four dimensions were then used as categories to code the data samples (systematic data coding). First, three members of the team performed a trial round of independent coding using 20 sample cases. Difficulties encountered during the trial round enabled the team to align their understanding of the categories and to refine the coding framework. In addition, the

coders noted varying levels of intercultural sensitivity among the data entries (refining, defining, and naming themes).

Once a more complete and robust framework was in place, two members of the team independently coded the entire data set using the coding framework. Each entry was tentatively assigned a level of intercultural sensitivity based on a holistic judgment about how the entry fared in terms of the coding categories. Out of 172 entries, 38 discrepancies occurred between the two coders. The discrepancies were not so much about the categories as the levels. To resolve discrepancies, the two coders conferred to better articulate the levels of the coding framework (refining, defining, and naming themes). As a result, the number of discrepancies was reduced to seven cases. A third member of the research team was then brought in to resolve the remaining cases through discussion and majority voting (two against one), leading to further clarifications and the achievement of 100% agreement in the level assignments.

Next, information about the entries' timing (i.e., pre- or post-ISL trip) and service locations were reintroduced into the data set for cross-tabulation. Doing so allowed us to compare students' views before and after the ISL trips, likewise to compare results between different service locations. Since we had a large sample size at our disposal, we decided to run a Fisher's Exact Test to ascertain that the pre-post changes were not due to random error and to check whether the differences between pre and post results were statistically significant (Fleiss, 1981). Fisher's is a statistical test that requires no minimum amount of data and can manage cases with zero expected counts. To investigate differences in students' development of intercultural sensitivity according to service location, the data was grouped into three regional sites (i.e., in order of proximity to Hong Kong: Mainland China, Southeast Asia, and Africa), and breakdown analysis was conducted across the different regions.

Results

Detecting Intercultural Cultural Sensitivity From Student Views About Host Countries

This section responds to the first research question: "What can students' views about the host country and its people reveal about their intercultural sensitivity?" Analysis of the data set revealed several dimensions in how students viewed host countries:

1. Some entries dwelled on surface elements of culture, whereas others captured deep elements (Hall, 1976);
 2. some focused on perceived deficiencies, whereas others highlighted strengths or assets;
 3. some expressed ethnocentric views, whereas others expressed ethnorelative views (cf. Bennett & Hammer, 2017);
- and finally,
4. some entries contained inaccurate or erroneous statements manifesting “stereotypical or impressionistic views,”

whereas others were more factual or circumspect, manifesting “evidence-based or open-minded views.”

As explained earlier, these categories emerged from the data set and called to mind concepts and frameworks from existing literature. The four categories enabled us to develop a framework for evaluating intercultural sensitivity with four dimensions: (1) surface versus deep cultural features, (2) stereotypical/impressionistic versus evidence-based/open-minded views, (3) ethnocentric versus ethnorelative perspectives, and (4) deficit-based versus asset-based approach. Table 3 explains each dimension in detail.

Table 3. The Four Dimensions of the Coding Framework

Dimensions	Descriptions
Surface vs. deep cultural features	This dimension is indicative of the depth of cultural understanding. • Surface cultural features are visible or tangible, e.g., food, language, infrastructure. • Deep cultural features show more sophisticated or in-depth knowledge of other cultures, e.g., values, attitudes, beliefs.
Stereotypical/impressionistic vs. evidence-based/open-minded views	This dimension is indicative of the accuracy of knowledge of other cultures. • Stereotypical/impressionistic views are general, simplistic, or inaccurate, seemingly based on mere opinion, or subjective or unsubstantiated information. • Evidence-based/open-minded views are balanced statements based on observation, experience, reliable sources, or critical/analytical reasoning, expressing openness to learn.
Ethnocentric vs. ethnorelative perspectives	This dimension is indicative of the degree of intercultural sensitivity. • Ethnocentric perspectives view one's own culture as the center or standard, and use it as a reference point to evaluate other cultures. • Ethnorelative perspectives are more self-aware and express insights about the complexities and/or interconnectedness of cultures.
Deficit-based vs. asset-based views	This dimension refers to the balanced regard for other cultures, emphasizing negative or positive aspects. • Deficit-based views focus on the community's needs or problems, and tend to see the community as passive recipients of service. • Asset-based views attend to the community's strengths or potentials, recognizing their agency.

It was further possible to classify the entries into four different levels by making a holistic judgment about how each entry fared in the four dimensions. These four levels were Level 1, *novice*; Level 2, *emerging*; Level 3, *adequate*; and Level 4, *advanced*.

Responses coded as *novice* are characterized by limited knowledge about the host culture, mostly focusing on surface features. The statements about the host culture are general or simplistic, seemingly based on mere opinion, subjective views, or unsubstantiated information. They tend to be self-referent, setting one's culture as the standard or expressing some form of superiority. Level 1 responses may also focus on the deficits (inadequacies, needs, problems) of the host country.

At the other end of the spectrum are responses coded as Level 4, *advanced*. They exhibit more sophisticated understanding of surface or deep elements of culture. Level 4 responses usually contain well-informed or balanced statements about the host country that are grounded in experience, reliable sources, or critical reasoning. They manifest openness to learn from or about other cultures, and demonstrate self-reflexivity through insights about the complexities or interconnectedness of different cultures. Level 4 responses characteristically grasp both strengths and needs of the host culture and express perceptive ideas about its status and future.

Between these two poles are intermediary levels of intercultural sensitivity. Responses at Level 2, *emerging*, are similar to those at Level 1 but show more traces of cultural awareness. They may score well in one or two of the four dimensions. Level 3, *adequate*, responses, on the contrary, are similar to those at Level 4 but have minor indications of cultural unawareness. The following are direct quotes from students' written responses illustrating the respective levels.

Level 1:

I think Tanzania is a developing country, so it must be poor. There are no high-rise buildings. The toilets may not function well and have no water for flushing. Since Tanzania is not a coastal country, there will probably be no seafood to eat. I suppose most of the people in Tanzania are black, because of race.

I expect Tanzanians to be kind because they have less competition in the workplace. (Participant 186)

The statement above was classified as Level 1 because it focused on surface features like infrastructure and cuisine. Given that "coastal," "seafood," and "workplace competition" are distinctive features of the participant's place of origin, the entry may be said to contain a subjective assessment of the host country using one's own culture as the standard or point of reference. Overall, the entry is deficit-based, focusing on what the host country does not have.

Level 2:

In the coming January, we will go to Tanzania. In my point of view, this country's culture is diverse. It has over 120 ethnic groups and more than 125 indigenous languages. Our service recipients are local primary students. Their first language is Swahili. English is their second language. [From the preparatory] workshop, I think they have very basic computer skills. (Participant 114)

Participant 114's response was classified as Level 2. Although the statements are mostly about surface features (ethnic groups and languages), it names the exact number of ethnic groups and languages, showing that the writer learned some facts about the host country. The observation about "basic computer skills" is a generalization which, on the other hand, is based on an indirect but valid experience (preparatory online workshop with Tanzanian community partners). It demonstrates an active attitude to learn about another culture and an emerging intercultural sensitivity.

Level 3:

I think the people in Vietnam are friendly and energetic. Although there are limited learning resources, my students showed eagerness and enthusiasm for the workshop. Some students kept asking questions and were willing to experience the AI and Scratch in 2.5 hours of daily workshop. One of my students, Anna, is not only very smart with Scratch, but showed her care when I was sick by giving me a biscuit. It

is very heart-warming that a little kid can show this kind of spirit to a foreigner whom she hardly knows. Also, the assisting local university students, Valerie and Lily, put 120% effort into teaching. They spoke more than we did, and even spent their own time to learn Scratch to prepare for the workshops. From what I saw, I understand more about the country and its people. I hope the workshop was beneficial for them, that they will live a happy life in this digital era. (Participant 124)

Participant 124's response was classified as Level 3. The entry shows in-depth understanding of the other culture based on firsthand experience. The participant did not stay in the level of surface features but grasped deeper cultural elements such as caring and hardworking attitudes. There is also indication of building bonds with the local people and an appreciation of their qualities and potentials, reflecting an asset-based view. What is missing in terms of intercultural sensitivity is some expression of ethnorelative perspectives, showing awareness and understanding of the complexity of cultures.

Level 4:

During my service-learning program in Pretoria, I was deeply impressed by the vibrant spirit and resilience of the local students and community. Despite the challenges they faced, including an obvious digital divide and limited educational resources, I was struck by the enthusiasm and curiosity of the locals. Learning alongside the students, I witnessed first-hand their curiosity and ability to adapt quickly, especially when exposed

to new concepts such as artificial intelligence and machine learning. The experience not only highlighted the huge gap that exists in access to technology but also the transformative power of education. The people of Pretoria, with their unlimited potential and passion for knowledge, left an indelible mark in my heart, inspiring me to advocate for equitable educational opportunities for all, and to cherish every resource and opportunity available to me, to be passionate and curious. (Participant 166)

Participant 166's response was classified as Level 4 because the entry reflects high levels of all four dimensions of intercultural sensitivity. It expresses in-depth understanding and appreciation of others' cultures based on direct interaction. It also manifests self-reflexivity through insights about the interconnectedness of cultures (i.e., all should have access to education, and realization of one's role in the world).

In answer to RQ1, student views about the host country revealed different dimensions and levels of intercultural sensitivity as illustrated above. Using aspects of intercultural sensitivity that we observed in students' writing, we were able to develop a framework we had developed for assessing intercultural sensitivity with four dimensions and four levels. The resulting distribution of participants using this framework is summarized in Table 4.

Changes in Levels of Intercultural Sensitivity Before and After ISL Experiences

The second research question inquires about changes in students' views about the host country before and after ISL trips. Separating pre-ISL data from post-ISL data,

Table 4. Distribution of Intercultural Sensitivity Levels (N = 172)

Intercultural sensitivity levels	Counts	%
Level 1 (<i>novice</i>)	42	24.42
Level 2 (<i>emerging</i>)	74	43.02
Level 3 (<i>adequate</i>)	42	24.42
Level 4 (<i>advanced</i>)	14	8.14

we were able to compare the two groups of entries. Compared to pre-ISL entries, post-ISL entries showed a marked decrease in intercultural sensitivity Levels 1–2 alongside a marked increase in Levels 3–4. Table 5 is the distribution of intercultural sensitivity levels before and after the ISL experience.

The overall results indicate significant changes in students' intercultural sensitivity before and after the ISL trip. Levels 1 and 2 combined dropped from about 92% to 45% after the ISL trip. Level 3 had the most dramatic increase, from roughly 6% to 40%. Level 4 also increased from around 1% to 14%. All the changes were statistically significant according to Fisher's Exact Test ($p < 0.01$).

The answer to RQ2 is affirmative: There were very notable changes in students' views about the host countries before and after ISL experiences. Before the ISL experience, a majority of students placed in *novice*

or *emerging* levels of intercultural sensitivity. After the ISL experience, more than half of the students placed in higher levels of intercultural sensitivity, implying that their written entries demonstrated deeper understanding and appreciation of the cultures of the communities they served.

Differences in Intercultural Sensitivity Development According to Service Location

The third research question probes into differences in intercultural sensitivity development between groups that served in different regions. Cross-tabulating results based on service locations showed that although a general improvement occurred in levels of intercultural sensitivity in all service locations, the increment differed between groups. Table 6 is a summary of the levels of intercultural sensitivity in three different regions before and after the ISL experience.

The Mainland China group showed the

Table 5. Distribution of Intercultural Sensitivity Levels in Pre and Post Data (N = 172)

Type of entries	Level 1, <i>novice</i>	Level 2, <i>emerging</i>	Level 3, <i>adequate</i>	Level 4, <i>advanced</i>	Fisher's Exact Test
	% (Counts)	% (Counts)	% (Counts)	% (Counts)	(<i>p</i> value)
Pre	39.50% (32)	53.09% (43)	6.17% (5)	1.23% (1)	
Post	10.99% (10)	34.06% (31)	40.66% (37)	14.29% (13)	$p < 0.01$

Table 6. Distribution of Intercultural Sensitivity Levels in Pre and Post Data by Regions

Type of entries	Level 1, <i>novice</i>	Level 2, <i>emerging</i>	Level 3, <i>adequate</i>	Level 4, <i>advanced</i>	Fisher's Exact Test
	% (Counts)	% (Counts)	% (Counts)	% (Counts)	(<i>p</i> value)
Mainland China					
Pre	55.50% (10)	38.90% (7)	5.50% (1)	0.00% (0)	<i>p</i> = 0.335
Post	43.70% (7)	31.30% (5)	25.00% (4)	0.00% (0)	
Southeast Asia					
Pre	34.48% (10)	55.17% (16)	6.90% (2)	3.45% (1)	<i>p</i> < 0.01
Post	0.00% (0)	30.77% (12)	53.84% (21)	15.38% (6)	
Africa					
Pre	35.29% (12)	58.82% (20)	5.88% (2)	0.00% (0)	<i>p</i> < 0.01
Post	8.33% (3)	38.89% (14)	33.33% (12)	19.44% (7)	

smallest changes compared to the other two regions. The changes were also not statistically significant (Fisher's Exact $p = 0.335$). It is worth noting too that the post-ISL data of the same group show a significant proportion of students (75%) remaining in Level 1 or Level 2. Although there was an increase in Level 3 from 5.50% to 25%, none of the post entries in this group reached Level 4.

Students in the Southeast Asian and African groups showed statistically significant shifts to higher levels of intercultural sensitivity (Fisher's Exact $p < 0.01$). The improvement in the Southeast Asian group is larger: There is a substantial drop in the number of Level 1 and Level 2 entries from about 89% before the ISL trip to 30% after the ISL trip. More than half of the students from the same group moved from lower to higher levels of intercultural sensitivity.

Data in the Africa group also showed significant progress in intercultural sensitivity. The percentage of Level 1 and Level 2 combined decreased from approximately 94% to 47%, meaning that close to half of the students moved from lower to higher levels of intercultural sensitivity. The percentage of Level 4 rose from 0% to 19.44%.

In answer to RQ3, we observed notable differences in intercultural development based on service location. The fact that the study was based on a multisite ISL program helped reveal these differences.

Discussion

The purpose of the study was to examine the impact of the ISL experience on students' intercultural sensitivity. This examination was accomplished by analyzing and comparing students' views about the host countries and their people before and after their ISL trips. In the process, a framework for assessing intercultural sensitivity was developed. Students' views exhibited different levels of cultural understanding and attitudes toward other cultures. By collectively analyzing the data, we were able to identify four dimensions of intercultural sensitivity and develop a framework with four levels of intercultural sensitivity.

Significant shifts were observed in students' perceptions of the host countries after their ISL experiences, indicating an overall improvement in intercultural sensitivity. The results are consistent with our expectation and prior research (Rodríguez-Izquierdo,

2021; Short & St. Peters, 2017), supporting the claim that ISL can have a positive impact on students' intercultural sensitivity. Higher intercultural sensitivity was observed in all four dimensions in the post-ISL data, with more mentions of deep cultural features, evidence-based and open-minded views, and ethnorelative and asset-based perspectives. By intentional design, each of the 10-day service trips of the ISL course involved cultural immersion and direct, substantial interaction with the host communities. In this regard, it is natural to expect that the students would have more to say about the host country and be able to correct or enrich their views about its culture. On the other hand, acquiring ethnorelative perspectives and taking an assets-based approach toward other cultures takes more than exposure. Fundamental attitudes of respect, openness, and curiosity are needed to develop intercultural competence (Deardorff, 2006).

According to Deardorff's (2006) process model of intercultural competence, shifts in attitudes signify an internal change in frame of reference, which influences how an individual interprets and understands the world. Such internal change leads to more effective communication and appropriate behavior in the midst of diversity. Deardorff's process model concurs with Bennett and Bennett's (2004) developmental model, according to which the potential to exercise intercultural competence increases proportionally as an individual's perception of cultural difference becomes more complex and cultural experiences more sophisticated (Bennett & Bennett, 2004).

The effect of ISL on intercultural sensitivity development was not the same across the groups that served in different regions. Compared to the Southeast Asian and African groups, students who served in Mainland China did not gain as much intercultural sensitivity, and the change from lower to higher levels was not statistically significant. We discuss our speculations about the differences in the next section.

Cultural Difference

Hong Kong is part of China but has a particular history and culture that sets it apart. China, moreover, is a large country where cultural diversity is quite pronounced from east to west and north to south. The marked cultural diversity in China explains why projects in Mainland China counted as ISL projects at the sampled university in

Hong Kong. Compared to Southeast Asia and Africa, however, the cultural difference between other parts of China and Hong Kong is not large, as they are the same country and have similar racial demographics (predominantly Han Chinese). Further, it is worth noting that the service site of the ISL course in Mainland China was Shaoguan, a small city in northern Guangdong Province bordering Hong Kong. Because of the physical proximity, the people of Shaoguan and of Hong Kong have similar cultural backgrounds. For example, elements of Indigenous Hakka culture can be found in both places, and Cantonese is widely spoken in both places. The Cultural Fixation Index (CFST) developed by Muthukrishna et al. (2020) measures Hofstede's (2001) and Schwartz's (2006) cultural distance and differences between populations. According to the CFST online tool (<http://www.culturaldistance.com/>), Hong Kong and China have the least cultural distance compared to Hong Kong and other service locations (except Tanzania, for which data is unavailable). Perhaps for this reason, ISL students who served in Mainland China did not need to exert as much effort to understand and adapt to diversity. From another point of view, perhaps the students knew more about Mainland China and thus possessed a higher level of pre-ISL intercultural sensitivity. Either way, their ISL experience did not seem to yield a significant increase in intercultural sensitivity. As some entries from the Mainland China group showed, students did not perceive much challenge in intercultural communication during the service trip. The relatively small change in intercultural sensitivity in the Mainland China group suggests that if intercultural sensitivity or competence is one of the intended learning outcomes of an ISL program, program designers should take into account the cultural differences between the origin and host countries.

Both the Southeast Asian and African groups demonstrated significant improvements in levels of intercultural sensitivity. As discussed in the Results section, nearly 60% of students in the Southeast Asia group and close to 50% in the Africa group transitioned from lower levels to higher levels of intercultural sensitivity after their ISL trips. It is worth noting that approximately 90% of pre-ISL entries in both groups were placed in lower levels. This substantial shift in intercultural sensitivity reflects the potentially transformative learning experience

that ISL can bring about. The observation is supported by post-ISL entries mentioning changes in perspectives or behaviors. These transformative cases were classified as Level 4.

Interestingly, despite Africa being geographically farther and arguably more culturally distant from Hong Kong than Southeast Asia, the African group did not demonstrate a greater increase in intercultural sensitivity. These findings align with the mixed results found in previous research regarding the impact of cultural distance. For instance, Zou et al. (2023) surveyed 957 repatriates who returned to their home countries after living abroad and found that individuals from home countries that were more culturally distant than the host country were more inspired by the experience, leading to a positive effect on intercultural exchange. However, Suanet and Van de Vijver (2009) conducted a study with 187 first-year exchange students and found that a higher perceived cultural distance was associated with increased homesickness and reduced intercultural behavior in the host country. Other studies have identified a curvilinear relationship, suggesting that moderate cultural distance has the greatest positive impact compared to both small and large cultural distances (Baum & Isidor, 2016; Gocłowska et al., 2018). In our study, the Southeast Asian group exhibited the most improvement in intercultural sensitivity, surpassing even the African group, which traveled farther to an altogether different continent. These findings support the possibility of curvilinear effects. They also underscore the importance of further research to examine whether there is an optimal level of cultural distance for intercultural learning (Zou et al., 2023). It is worth investigating whether beyond a certain threshold of cultural distance, the positive effects diminish or negative effects increase.

Intercultural Interaction

Cultural differences aside, one way to account for the Southeast Asian group showing the highest increase in intercultural sensitivity is by looking into specific differences in the ISL experiences of the different groups. As mentioned earlier, all the students in the course regardless of service location attended the same lectures and had the same preparation before the trips. They all also had at least three reflective activities during the trip. One arrangement that stood out in the Southeast Asian group's experi-

ence (that the other groups did not have) was the close collaboration of local university students with Hong Kong students. In order to overcome language barriers, university students in the Philippines and Vietnam were recruited to translate and to assist Hong Kong students in their service delivery. Immediately before the service, the local university students joined the Hong Kong students in 2 days of preparatory sessions at the service sites. In addition, they accompanied Hong Kong students during and outside service hours, for example, for daily meals or to visit historical or cultural sites. In other words, unlike the other service locations where Hong Kong students' experiences in the host communities were limited to direct interaction with service clients, students in the Southeast Asia group spent more time with the host communities. They not only interacted with service clients but also had the opportunity for in-depth interaction with local peers while serving and during downtime. We believe that this arrangement gave the Southeast Asian group a chance for richer intercultural interaction, resulting in a larger positive shift in intercultural sensitivity. Based on Allport's (1954/1979) intergroup contact theory, a wide range of evidence has shown that intergroup contact can reduce prejudice toward people from other cultural groups, and that four features in the contact situation maximize the effect: equal status between the groups, common goals, intergroup cooperation, and the support of authorities (Barrett, 2018; Pettigrew & Tropp, 2006). In the situation of the Southeast Asia group, students collaborated with the local university students with a shared objective of bridging the digital divide through AI workshops. In all likelihood, their collaboration in service fostered equality and partnership between the visiting students and their local counterparts. The arrangement also facilitated bonding. The contact conditions experienced by the Southeast Asian group may have thus led to friendships with diverse others, contributing to heightened appreciation for cultural diversity and increased sensitivity (Kirillova et al., 2015).

Limitations of the Study

By providing an alternative to self-reported surveys commonly used in ISL research to evaluate learning outcomes, the study responded to the need to employ more diverse methods in order to gain deeper understanding of ISL pedagogy and its impact (Bringle

et al., 2012). Self-reports are prone to social desirability bias (Grimm, 2010). Respondents tend to give answers that they think are more socially acceptable than their true thoughts or behavior. Self-reporting also tends to capture surface-level data limited to what students are consciously aware of or willing to share. In the written task designed for the study, we did not directly ask students about their intercultural sensitivity but, instead, analyzed their views about the country or culture they were exposed to through ISL.

The study, however, has limitations. Readers should note that the pre-ISL and post-ISL data did not involve matched samples. The written task from which the data set originated was designed as a voluntary and anonymous exercise in order to encourage students to freely share their perspectives. This anonymity prevented us from the possibility of matching pre-ISL and post-ISL samples. It is difficult to rule out the possibility that the observed changes are due to sampling errors in the pre and post cases. Notwithstanding, the high response rates from both pre- and post-ISL groups give confidence that students' views were well represented. In future studies, researchers could consider asking respondents to provide a unique indicator to enable collection of anonymous paired samples. Additionally, including demographic questions in the written task would make it possible to explore potential correlations between student variables and intercultural sensitivity development.

Another limitation of the study is that the student views collected were 100-word entries. Lengthier student artifacts such as essays or interviews could provide more material for understanding and assessing intercultural sensitivity. Future studies could utilize the coding framework on more and other types of intercultural exercises in order to validate or improve the assessment framework.

Furthermore, although the study is based on a multisite ISL program involving students from different disciplines, the program was, in the end, a single course in one university. Future research could include multiple programs or institutions to triangulate the results and increase the applicability of the findings. Deriving data solely from the students' short-text descriptions was another limitation of the study.

Lastly, the researcher's subjectivity is inevitable in social research studies, particularly ones that require qualitative data analysis

(Roulston & Shelton, 2015). We acknowledge that bias is inevitable in this type of research, and we tried to mitigate it through various means, such as having a third person remove identifiers before coding, performing parallel coding, and involving multiple researchers in the research process.

Conclusion

In a special issue of the *Journal of Higher Education Outreach and Engagement* titled "A Global Perspective on Service-Learning and Community Engagement in Higher Education," Furco and Kent (2019) highlighted service-learning as a major practice that has advanced the integration of community engagement into schools and universities: "Service-learning is serving as the entry point for making community engagement a more central feature of the academic culture of higher education institutions in different corners of the world" (p. 1). In the past decade, service-learning received increased attention and resource allocation in institutions of higher education in Asia. In this light, this study about international service-learning (ISL) developed from an Asian context is timely, contributing a non-Western perspective to enrich our understanding and explore variations in

international community-engaged learning (ICEL) across the globe. Therefore, the study is a contribution to the theme of "unveiling the benefits of ICEL" by providing evidence of how ISL impacts student development in intercultural sensitivity. Given the importance of global citizenship and intercultural effectiveness and higher education's role in cultivating them (UNESCO, 2014), ISL practice should be encouraged. At the same time, it is important to recognize that not all ISL programs achieve their desired impact, and simply sending students overseas does not guarantee intercultural learning (Prins & Webster, 2010). Our findings indicate that cultural differences between origin and host countries matter to some extent. There is thus an advantage in selecting locations with substantial cultural differences from students' backgrounds. However, not only the location but the amount and quality of interactions in the host communities are critical factors. ISL program design or arrangements could create environments conducive to intercultural immersion by, among other factors, fostering collaborative relationships between visitors and locals.



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