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Marginalization and Underrepresentation in Virtual Exchange: Reasons and Remedies

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ABSTRACT

The recent expansion of virtual exchange (VE) in lieu of the Covid-19 pandemic and the ongoing advance of technology has resulted in considerably larger numbers of VE participants for those in certain areas and contexts, yet not all would-be participants have been so fortunate. In some regions and in various contexts, challenges in VE implementation have resulted in disadvantaged populations in terms of underrepresentation and marginalization in global VE networks. To illuminate such challenges, a mixed-method approach was utilized in the current study, beginning with a global survey to elucidate reasons for underrepresentation in terms of political, governmental, institutional, administrative, technological, pedagogical, cultural and personal challenges. Thereafter, semi-structured interviews with instructors, administrators, and educational decision makers were conducted to gain further insights. Although VE is now well established as an impactful mode of studying abroad, various region-specific challenges remain. We conclude with recommendations on how to overcome the challenges especially in those underrepresented regions and populations.

Keywords: virtual exchange, intercultural education, marginalization, underrepresentation, global survey

The backdrop for this contribution is a large-scale study funded by the US-based Stevens Initiative (https://www.stevensinitiative.org), an international organization that supports the development of global competence and career readiness skills for young people by enhancing the field of virtual exchange. The study was carried out in 2021 by an international consortium of virtual exchange (VE) scholars and practitioners who are committed to the myriad benefits of VE while remaining concerned that VE lacks the egalitarian aspect that education should entail. A long history of research on contact theory, which advocates having students from various backgrounds interact and study with each other (Allport, 1954), has demonstrated a significant reduction in stereotypes and improvement in attitudes toward the so-called out-group (Moaz, 2000; Pettigrew & Tropp, 2000, 2006). This research has also shown that those who have the opportunity to study abroad generally exhibit "higher levels of international political concern, cross-cultural interest, and cultural cosmopolitanism", along with "a greater change in intercultural communication skills" (Carlson & Widaman, 1988, p. 13; Alred & Byram, 2002). These findings have encouraged institutions all over the world to establish in-person student exchange programs to foster similar results among students from different backgrounds (Paige et al., 2009). However, in-person exchange remains limited to a very small percentage of students due to its high cost, the required period of time spent away from one's home, and lack of flexibility (Doyle et al., 2010). As a result, educators have sought to implement VE programs as an alternative form of student exchange that delivers the same benefits of traditional student mobility while utilizing more accessible tools at a much lower cost and in a safer way. Indeed, studies demonstrate that VE offers the benefits of enhancing cultural awareness, subject knowledge, and communication (Olsen et al., 2006;

Todhunter et al., 2013; Machwate et al., 2021), all of which are characteristic of traditional in-person exchange.

However, not all student groups have shared in the benefits of study abroad programs or VE. Certain groups are underrepresented, participating at a lower rate than would be expected: for example, in 2017 in the United States, only 9% of the students that identified as Hispanic or Latinx participated in study abroad programs although they constituted 17% of the overall student population. This underrepresentation situation paralleled that of Black/African-American students, who comprised 15% of the student population yet only 6% of study abroad participants (Engle, 2017). Moreover, such underrepresented populations often face challenges that are specific to their particular context (Ecker-Lyster & Kardash, 2022).

Marginalization is also of concern in study abroad and VE programs, reflecting a form of educational marginalization. UNESCO defined educational marginalization as "a form of acute and persistent disadvantage rooted in underlying social inequalities" (Education for All, Global Monitoring Report 2010), yet it can originate with institutional or legal constraints as well. In a US context, for example, undocumented university students (i.e. those with no legal standing to reside in the US) faced extensive challenges in participating in study abroad (Butler, Madden, & Smith, 2018).

Thus, the current study is an endeavor to illuminate and more fully understand the challenges that limit or even prevent educators and administrators from fully utilizing VE as a vehicle for inclusive international education for underrepresented and marginalized student populations. The study focused on five geopolitical sectors: South and Central America, sub-Saharan Africa, the Middle East, Central Asia, and East Asia.

The study was further informed by critical VE, an emerging line of VE research and practice (Hauck, 2020; Klimanova & Hellmich, 2021), which sees VE as a vehicle for socio-political change. The tableau upon which VE develops is multi-faceted, being influenced by societal factors such as gender and age issues, institutional constraints such as lack of support, technological shortcomings, geopolitical realities, and systemic issues such as the pervasiveness of Western hegemonies. Critical VE is well situated to explore issues of inclusion and exclusion in VE-based efforts to internationalize higher education home curricula (a process known as Internationalization at home, or IaH; Beelen & Jones, 2015). Moreover, critical VE advocates addressing social injustice at both institutional and individual levels (e.g., by improving student access to employment through purposeful VE experiences; see also Andreotti, 2006). Its focus on marginalized and underrepresented learner populations is particularly germane.

Research Questions

Thus, in light of this complex background and the need to more fully comprehend the challenges that inhibit or even preclude a more complete implementation of VE as a vehicle for inclusive international education, this study addresses the following research questions:

Q₁: What are the challenges leading to the underrepresentation and marginalization of communities of learners in VE programs?

Q₂: Which practices and policies can contribute to mitigating the impact of these challenges?

LITERATURE REVIEW

The genesis of this study lies in the world of student exchange, to which virtual exchange is a reasonably recent addition. The world of student exchange has for years depended on the availability of several factors, all of which must align in order for the student to study in a location other than the home institute. On a personal level, the student requires ample motivation and the financial wherewithal to participate in an exchange program. On a societal level, an attractive school must first exist and be available as an exchange venue, and the respective societies must be conducive to study (i.e., not be in a conflict zone or subject to stringent rules and regulations that precludes studying). On an administrative level, support for exchange study needs to be included in the student's curriculum, and exchange protocols (e.g., memoranda of understanding or agreement) must be extant. On a technological level, the infrastructure to physically travel to the exchange location must be available and within one's financial means, and in the current pandemic-restricted context the tools for virtual exchange such as a stable Internet connection and a sufficiently powerful device must be both available and not prohibitively expensive. Absent any one of these aspects, exchange study becomes significantly more difficult and perhaps impossible. As a result, only a small minority of students across the world is able to participate in physical student mobility, due mainly to financial reasons (Miles et al., 2018). For example, only 60,000 out of 8.6 million students within higher education institutions in Brazil took part in study abroad in 2019. By the same token, only 1% of U.S. students pursue a study abroad experience each academic year although over 90 percent of U.S. universities sponsor study abroad programs (Lipinski, 2014).

Against this set of challenges, VE has proven a useful method for beginning to address some of those challenges. VE is widely perceived as a means to achieve an equitable and inclusive education for all by removing the need to study abroad which contributes directly to the global climate crisis (de Wit & Altbach, 2020). Given access to sufficiently-developed infrastructure, students can partake in "pedagogically-structured online collaborative learning between groups of students in different cultural contexts or geographical locations" (O'Dowd, 2018, p. 2). Moreover, VE combines the deep impact of intercultural dialogue and exchange with the broad reach of digital technology (EVOLVE, 2019) and is a powerful instrument and catalyst in advancing IaH (O'Dowd & Beelen, 2021).

VE programs have been found to be an ideal instantiation of IaH as "they represent a collaborative, international exercise on the part of teachers and students … make use of online technology to foster interaction," and "lead to active intercultural and international learning and learning outcomes; and they can be actively integrated into the learning process" (de Wit, 2016, p. 78). In fact, VE initiatives are generally integrated into students' formal learning, and student participation comes with some form of (academic) recognition such as grades, credit or badges. However, while the aim of IaH is to reach all students, many VE practices are still electives available to some students only because expanding VE to include all students requires considerable effort (EVOLVE Project Team, 2020). Thus VE-based IaH is not inherently inclusive. On the contrary, VE has the potential to present one-sided perspectives and concepts to learners that do not account for the diversity of contexts and experiences, similar to any other form of online or blended education (DeWinter & Klamer, 2021). The use of the English language in VE programs serves as a

good example of such biases and hegemonies, in addition to the fact that facilitators are trained using Western ideologies, which might lead to alienation of certain student populations (ibid). Advances in educational technology rely on resources taken for granted in developed countries (e.g., a reliable source of electricity, high-bandwidth Internet access, fast WiFi, and powerful devices). As a result of such assumptions, digitization has not yet had a globally transformative impact on education nor has it led to greater equality and inclusion (European Parliament, 2018). If anything, the Covid-19 pandemic and the worldwide move to online education have shown how lack of technology access has not only exacerbated inequality and exclusion (Correia, 2020), but has also created new digital inequalities (Satar & Hauck, 2021). Thus, "while technology has the capacity to empower and liberate, it also has the capacity to exclude and marginalize" (Darvin, 2016, p. 2).

Moreover, the political and social dimensions of technology use tend to be underestimated, as are the power dynamics created by educational practices, like the prioritization of certain types of knowledge that reinforce social and epistemic inequalities and injustices (Selwyn & Facer, 2013). Therefore, researchers need to systematically dissemble the assumptions and ideologies in the discourses and practices associated with educational technologies, with VE-based IaH first and foremost. Educators, therefore, need to examine carefully how processes of inclusion and exclusion play out in virtual settings (O'Dowd & Beelen, 2021) and ultimately what particular challenges curtail or preclude participation in VE. This is addressed further in section 3.

METHOD

Drawing on mixed methods (Nunan & Bailey, 2009) this study uses quantitative data from a Likert-scale instrument to examine trends and categories. These data were then complemented by qualitative data from open-ended questions to illuminate reasons for underrepresentation in terms of political, governmental, institutional, administrative, technological, pedagogical, cultural, and personal challenges. Qualitative data from semi-structured interviews with educators and administrators identified via the survey were collected to gain in-depth knowledge of the challenges associated with VE in underrepresented populations. This comprehensive data capture enabled us to examine those issues embedded in the RQs which are not amiable to an investigation using quantitative instruments only.

The methodology was also informed by ethnography, which has a "unique capability for getting close up to sites of social injustice and offers the ethnographic researcher a unique opportunity for constructing emancipatory practices" (Gray, 2014, p. 459). Ethnography is concerned with articulating identifiable cultural and political issues including injustices and thus allows one to "criticise how things are and imagine how they could be different" (Denzin, 1999, p. 153). Moreover, ethnography—in accordance with Willis and Trondman (2000)—is "a family of methods involving direct and sustained social contact with agents, and of richly writing up the encounter, respecting, recording, representing at least partly in its own terms, the irreducibility of human experience" (p. 5).

The focus in this study is on exchanges that are collaboratively designed and implemented by two or more university educators who want to integrate an international and intercultural dimension into their extant courses; this represents the very definition of faculty-led VE. This is the model that has its origins in foreign language education, where

it is known as telecollaboration (Belz, 2003; Guth & Helm, 2010) or online intercultural exchange (O'Dowd & Lewis, 2016). In the US this model is also referred to as collaborative online international learning (COIL; Guth & Rubin, 2015), which has been used in a wide range of disciplines.

The Survey Instrument

The primary focus of the survey was to understand the reasons for underrepresentation in VE-based IaH in five geo-political regions: Africa, South and Central America, the Middle East, Central Asia, and East Asia. Toward this end, an iterative process based on Sperber (2004) was employed through the successive steps of instrument creation, validation, translation, implementation, evaluation, and refinement. Based on the literature and the team's experience in VE research and practice, the research team first identified the seven broad categories of VE challenges introduced earlier. Next, the team engaged in operationalizing key constructs and used those to create the survey items for each category before carrying out the validation process.

In the translation step, the survey instrument was translated from English into the eight target languages: Arabic, Chinese, French, Japanese, Portuguese, Russian, Spanish, and Turkish; the initial translations were then back-translated by other bilingual academics. Discrepancies were reconciled and final versions of the respective language surveys were produced.

According to Bolarinwa (2015), the theoretical constructs of a survey instrument are assessed through scrutiny of face validity and construct validity. While the former is "the appropriateness, sensibility, or relevance of the test and its items as they appear to the persons answering the test" (Holden, 2010, p. 1), content validity refers to "the extent to which the items on a test are fairly representative of the entire domain the test seeks to measure" (Salkind, 2010, p. 233). To examine face validity, a pilot group of five participants provided feedback on the survey items, which the research team then discussed and selectively incorporated into the revised version. This version was then shared with eight VE experts for content validation. Following their recommendations, a further improved version of the survey was produced, which formed the basis for the translations. For each target language, a bilingual academic or team of academics provided an initial translation, which was then back-translated from the target language into English. Discrepancies in the two English versions were then addressed, yielding a final target language version that was made available online via Cognito Forms (www.cognitoforms.com).

Beginning in September of 2021, recruitment of participants commenced through word of mouth and invitations through concentric personal and professional international networks. For example, the invitation was distributed through LinkedIn connections, who were invited to pass it along through participant networks. As such, the participant pool was one of convenience, but in most cases the participants were or had been involved in virtual exchange. In the four months in which the survey was available, a total of 340 participants (238 educators and 102 administrators) completed the survey. Although we initially targeted the aforementioned geo-political sectors, distribution via social media allowed participation across a larger geographical range and the inclusion of two additional

geopolitical areas, Europe and North America. The number and role of participants per region are shown in Table 1.

Table 1. Participants and Role by Region

	Teacher	Administrator
Africa	13	2
Central Asia	62	26
East Asia	39	4
Europe	20	7
Latin America	15	7
Middle East	61	37
North America	28	19
Total	238	102

The reported data from Table 1 relate to participants' (teachers and administrators) responses to the 28 survey items. An initial internal reliability analysis of these items was performed; results are shown in Table 2.

The analysis suggested that dropping some items would improve the reliability in most constructs. In addition, a factor analysis was performed to obtain more evidence in support of our decision regarding the configuration of the instrument. To this effect, a principal component analysis (PCA) was conducted based on the correlation matrix and varimax rotation method. The results supported the hypothesis that the configuration of seven components was robust.

Based on the initial reliability analysis and the PCA, some survey items were revised and others were deleted; the final reliability values for the respective components are shown in Table 2.

Table 2. Final Configuration and Reliability of the Survey Instrument

Construct with Sample Item	α
1. Experience with VE ($k = 2$)	0.77
Q3. I have the necessary digital skills and knowledge of technology to implement a VE.	
2. Political Issues ($k = 3$)	0.79
Q12. National or local political regulations have an impact on VE.	
3. Institutional Issues ($k = 5$)	0.90
Q15. My school has training in VE methodology.	
4. Technological Issues ($k = 3$)	0.90
Q22. Internet connectivity is one of the main technological challenges for VE.	
5. Pedagogical Issues ($k = 2$)	0.70
Q24. At my school/institution students who have taken part in VE rate the experience highly.	
6. Emotional Issues ($k = 2$)	0.79
Q34. Students' parents and/or other community members discourage me from implementing a VE at my institution.	
7. Attitudinal Issues ($k = 3$)	0.88
Q40. VE is a safe learning environment for female students.	

Semi-structured Interviews

Semi-structured interview questions were developed in line with the survey questions to elicit detailed information on participants' VE experiences in each region while enabling valid comparisons across regions. The development of prompts with volunteers (see Section 3.1) underwent a rigorous process including operationalizing of key constructs (which was informed by insights gained from the survey) and validation. To validate the interview protocol, two pilot interviews were conducted and analyzed by two researchers, and necessary modifications were made before the interview schedule was shared with the rest of the team for further refinement. This process showed that some of the prompts required further revision to allow the research team to address factors contributing to marginalization and underrepresentation in VE-based IaH in a more direct manner. Thus, in the section on 'Issues of Access and Inclusivity' two questions were added:

Question 3.3. Do certain ethnic or social groups or minority populations lack access to VE?

Question 3.4. Are there differences in opportunities for learning due to one's background?

In the section on 'Political/Governmental Issues/Access to Funding' two questions were added:

Question 7.3. Do you have funding at your institutional level that you can request for building new programs? Who can request that funding? Everyone who teaches at your institution?

Question 7.4. Do graduate students have access to special grants and stipends for implementing new methodologies at your institution?

A total of 33 interviews were conducted; all were done in English. The participants were chosen from the countries that were most represented in the survey responses. Table 3 shows the number and type of interviewees by region.

Table 3. Interviewee Numbers, Roles, and Locations by Region

	Teacher	Administrator	Countries Represented
Africa	2	3	Ghana, Uganda, South Africa
Central Asia	4	3	Kazakhstan, Uzbekistan
East Asia	5	1	Japan, China
Latin America	4	4	Ecuador, Mexico, Brazil
Middle East	2	2	Turkey, Lebanon
Europe	-	-	
North America	-	-	
Total	20	13	

The interviews were then transcribed and the textual data analyzed thematically (Braun & Clarke, 2006) using NVivo, Release 1.6 (QSR International, 2022). To ensure credibility and trustworthiness, a 6-step approach was followed in the analysis of the textual data: Following data transcription and familiarization (Step 1), a member of the research team was allocated to each region to initiate systematic inductive coding (Step 2). Codes were then collated into potential themes per region (Step 3). Once themes from all regions were identified, the entire data set was merged to establish themes across regions and to create a thematic map (Step 4). The specifics of each theme were then refined (Step 5). Finally, compelling extracts that represent overall findings and main highlights per region were selected (Step 6). In the next section findings are presented and discussed in detail.

RESULTS

Hereafter insights gained that address the two RQs are presented and discussed.

Quantitative findings

The first step in our quantitative results was a perusal of the entire data set and the challenges identified there. The top five challenges globally are shown in Table 4.

Table 4. Top Five Global Challenges

30. VE takes too much time/effort to develop.
23. Partners' incompatible preference for software.
18. No incentives for VE implementation.
12. National/local political regulations.
19. Lack of processes for curricular change.

Of these, the top two arise from the pedagogical sphere and implementation of VE. Being occupied with the day-to-day business of teaching constitutes the primary challenge for educators. The necessity of software synchronization between VE teaching partners is also a significant hurdle, perhaps because of institutionally mandated software or a tendency to utilize freeware. Two further challenges are administrative inasmuch as interested teachers face a lack of incentives to implement VE as well as an avenue to introduce curricular change in a more principled manner. The remaining challenge lay outside the university or institutional context as political regulations presented obstacles to VE implementation. These broad swaths do not, however, capture region-specific challenges, which were addressed with a second perusal of the data.

In the second analysis of the data, the top five challenges for the respective regions were assigned point values with five (5) representing the most commonly noted challenge. These were then tabulated as shown in Table 5.

Table 5. Summary of the top 5 challenges per region

Survey Item	Africa	Europe	North America	Latin America	Middle East	Central Asia	East Asia	OVERALL
				Region				
18. No incentives for VE implementation	5	5	5	4			1	20
30. VE takes too much time/effort to develop		3	1	5	1	5	5	20
19. Lack of processes for curricular change	3	4	4	2			2	15
23. Partners' incompatible software preference			2	3	4	3		12
22. Poor Internet connection	4				3	4		11
17. Students unable to participate locally	1	2	3	1			3	10
21. Weather impacts technology access					5			5
16. No training in VE methodology							4	4
10. Limited access to tech affects partnership	2				2			4
12. National/political regulations						2		2
29. Partners' incompatible assessment practices						1		1
17. No admin support for VE		1						1

Note. Numerical values indicate the top five challenges identified for each respective region with a larger number indicating a larger challenge. In Africa, for example, (18) *No incentives for VE implementation* was deemed the largest challenge and therefore assigned a value of 5, (22) *Poor Internet connection* was the second largest challenge and thus assigned a value of 4, and so forth.

Two items emerged as contenders for the top global challenge: in Africa, Europe, and North America "No incentives for VE implementation" occupied the top position, while "VE takes too much time/effort to develop" was the major challenge in three regions (Latin America, Central Asia, and East Asia). In the Middle East, however, "Extreme weather impacts technology access" was as the primary challenge. The second challenge on a global level, "Partners incompatible preferences for software", was noted in four areas, while "Poor Internet connection" was a major challenge in Central Asia, sub-Saharan Africa, and

the Middle East. Another widespread challenge was "Students unable to participate locally", which ranked in the top five challenges in five sectors.

The fourth challenge worldwide, "National/political regulations", only appears in the same position in Central Asia but is absent from the top five challenges in the other regions. Finally, "Lack of processes for curricular changes", which placed fifth in the global ranking, was noted in five sectors in the region-specific rankings.

A closer look at the challenges and their ranking in the regions under consideration also reveals that "Poor internet connection" is definitely a hurdle for VE-based IaH in sub-Saharan Africa, Central Asia, and the Middle East but is not a global challenge, failing to appear among the top five. "Students unable to participate in VE locally" was a lesser challenge yet appeared in five areas. Another noteworthy impacting factor is "Extreme weather conditions", which was mentioned only in the Middle East where it took the top position. In addition, a concern unique to East Asia was that VE training and best practices are at an introductory level and much more education and promotion are required; it was the second biggest challenge reported in that region. This assessment of the situation in East Asia is echoed by Seneviratne:

> As the region slowly begins to recover and as borders and universities open up for face-to-face interactions, the challenge will be how to offer students digitized learning together with traditional personal interaction and intercultural experiences to boost internationalization and exchanges, according to academics and policy-makers. (2022, ¶2)

The quantitative data show that challenges to VE with respect to marginalization and underrepresentation fall into two large categories, incentives and access. These two represent quite different perspectives, the former being administrative and the latter being related to environmental and infrastructure concerns. The qualitative findings explain some of the reasons for these individual factor rankings.

Qualitative Findings

This section presents the main themes that were identified across the data in each of the regions and across regions. Figure 1 summarizes the main challenges across all regions and Figure 2 shows unique challenges per region arising from the thematic analysis. Insights from the qualitative data shed further light on the reasons for region-specific challenges and ways these challenges could be addressed to mitigate underrepresentation and marginalization in global VE initiatives.

In south American, the main challenge was limited funding and incentives at the institutional and governmental levels for educational projects, especially compared to research projects. Second it was perceived that some students were disadvantaged due to challenges associated with language barriers, gender, and ethnicity. Representative quotations read as follows:

> In Ecuador, I don't think there is anything for it like that. We barely have a beginning of a funding system for research… not for pedagogical activities. (South America, Participant 3)

I see differences in ethnicity groups, for example, indigenous. I think they don't have this access [to VE] yet, at least not in Mexico, I can assure you that they don't even know what is virtual exchange or COIL is yet." (South America, Participant 8)

In the Middle East, our interviewees reported challenges related to internet connectivity, electricity cuts, access to technologies, time zone differences, and language. Some of the interviewees were not familiar with VE at all and did not have any insight into whether all instructors in their institutions had access or freedom to implement VE programs at their institutions. One interviewee made the following observation:

Students are not very rich actually and they can't afford to pay [for] large data bundles in their mobiles phones, they don't have enough hotspot connections as well. (Middle East, Participant 5)
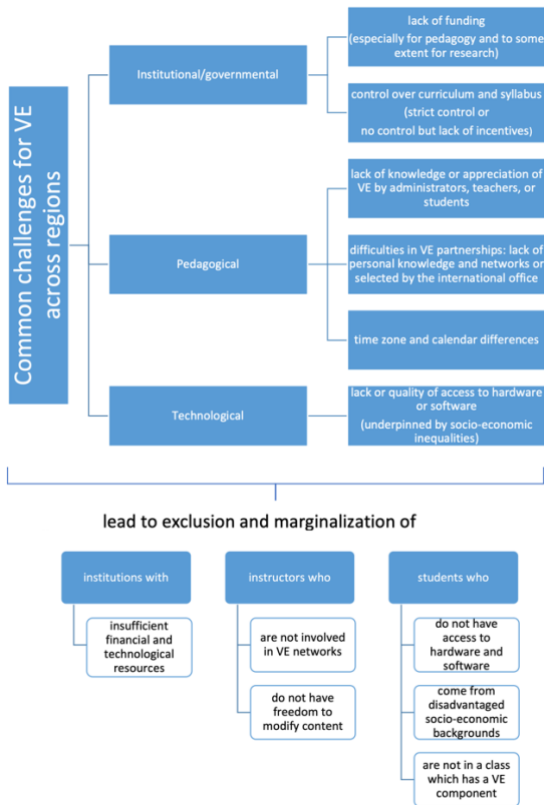

Figure 1: Thematic Map of main challenges based on Merged Data Sets

In Central Asia, three themes stand out. First, VE is not perceived as a mainstream methodology but is often equated with online teaching. VE is viewed predominantly as an opportunity to invite speakers from other countries as an extracurricular activity. Training in VE pedagogies is practically non-existent. Second, there is a big disconnect between instructors who teach and administrators who approve and launch VE initiatives in the region. Finally, VE is perceived primarily as an opportunity to engage with English speakers for students that are trained in languages. Existing initiatives are contained within individual departments; interdisciplinarity is discouraged at the institutional level. Here is a quote that speaks to what appears to be the main challenge:

> Everything is regulated by our International Cooperations Office. This is their responsibility to decide who we collaborate with in the department. (Central Asia, Participant 1).
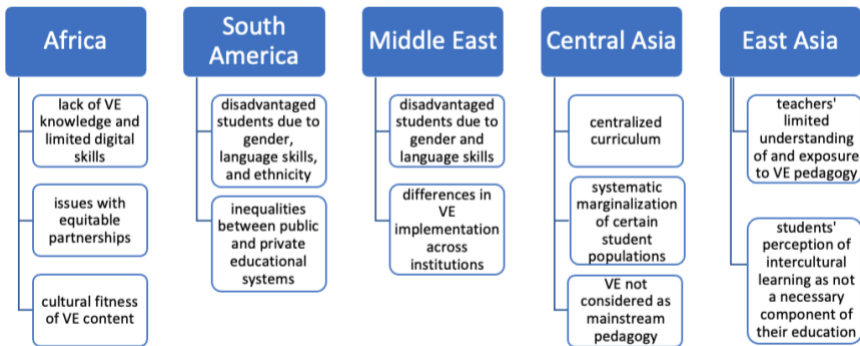

Figure 2: Unique Challenges per Region Based on Thematic Analysis

In East Asia, the interviewees reported limited understanding of and exposure to VE pedagogy. Three main barriers were identified in relation to this. First, there is a lack of interest on the part of the faculty to engage in sustained initiatives involving VE. Second, similar to the Middle East region, although teachers have freedom to implement VE, encouragement from the administration is limited. Teachers who are interested in doing VE feel isolated. Third, intercultural learning is also not perceived as a necessary component of education by some students. The following quote speaks to the second challenge:

> I once talked about [VE] with my dean. … And they all think it's nice to have it but [that's] not enough. And also, I mentioned this with some of my colleagues… And I asked whether they would like to join this program this semester again, with me. None of them responded. (East Asia, Participant 5)

In Africa, the participants revealed that technological challenges are still prevalent and deeply rooted in challenges around infrastructure, socio-economic inequalities, digital skills, and political and pedagogical attitudes resulting in issues of access and inclusivity. Referring to COIL one participant said this:

I think for me as a coordinator, uptake [buy-in] by our own academic staff [is most concerning] because I mean, the first thing that I always hear is that COIL is intimidating. (Africa, Participant 4)

Overall, the challenges identified through the survey and the qualitative interviews with teachers and administrators in each geopolitical region point to the unique characteristics of local educational structures that lead to marginalization and exclusive practices in the internationalization efforts at the local institutional and global scales. These challenges also reveal the aspects of VE administration that can be improved for a better inclusion of these regions in global VE initiatives and programs. The following sections address the implications of these findings for future VE-based educational practices.

DISCUSSION

First and foremost, despite the fact that it is by now well established that VE is as impactful as traditional study abroad programs (Olsen et al., 2006; Todhunter et al., 2013; Machwate et al., 2021), this message has yet to reach educators and educational decision makers globally. The same applies to VE-specific benefits which are supported by an emerging body of research in multiple disciplines (e.g., Bowen et al., 2021; Dawson et al., 2019). Our study reveals that there is a need to systematically increase awareness of VE in all regions, the processes involved in VE project design, best practices in VE implementation, and effective approaches to evaluating VE that bring its benefits to the fore and thus its potential impact on, for example, graduate employability.

There is a similar need for training in VE pedagogy and administration with a focus on VE from an equity lens (Kastler & Lewis, 2021). As deftly stated by Kastler and Lewis, such a lens is notable for its inclusion and equitable treatment of all concerned parties and for its focus on careful prioritization. There is a similar need for training in VE pedagogy and administration with a focus on VE from an 'equity lens' perspective (Kastler & Lewis, 2021). Such a perspective would be notable for at least two reasons, the first of which is the inclusion and equitable treatment of all concerned parties. Among others, these could include minority minority-serving institutions, non-English-medium institutions, and disadvantaged participant groups. The second reason is careful prioritization of time and resources to support implementers (teachers) while including activities that address social issues and local realities of all participating communities as part of the exchange dialogue.

Our findings show that funding for training in VE project design and incentives for VE implementation are especially needed in Africa, South America, the Middle East, and Central Asia. Awareness raising is crucial in altering the common perception that VE is primarily an opportunity to practice language skills (English) and suitable for the humanities only. This will help promote VE for all students and also contribute to overcoming detrimental language ideologies and linguistic hegemonies.

Implications

The data collected make it clear that a systematic approach to VE implementation is needed in all geo-political sectors investigated in this study. Toward this goal and in accordance with the equity lens tenets provided above, we recommend the following steps:

- Align VE efforts with institutional/regional goals in terms of providing students with an international education including institutional IaH strategies;
- Create the position of specialized VE ambassador, who would advocate for VE programs and assist faculty in the curriculum internationalization process;
- Develop policies to encourage and incentivize faculty to participate and design VE initiatives (e.g., not only providing funding for VE research but also for pedagogy and career progression); and
- Encourage the establishment of VE partnerships directly with faculty and departments rather than with administrative units at HEIs.

In addition, VE needs to be recognized and publicized as a legitimate and valuable form of international learning either independent of traditional student mobility programs or as a suitable complementary educational intervention.

VE is typically conceptualized as a partnership with a Western university (preferably an English-speaking one). All other types of VE are often not perceived as critical for comprehensive internationalization. This can be addressed by explicitly training institutional international cooperation officers and holding more conferences on VE pedagogies in a variety of disciplines and contexts (e.g., in Central Asian countries, in which VE was perceived as an initiative led by university administrators rather than teaching staff).

Finally, more studies and published research on VE implementation in underrepresented regions are needed so we can better understand their specific challenges and thus address them as a unified international educational community.

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