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Contribuciones del intercambio virtual al desarrollo de competencias interculturales: Una perspectiva de las instituciones de educación superior brasileñas

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Abstract: *This article presents the results of a study conducted in the Brazilian higher education system aiming at analyzing the contributions of virtual exchange programs to the development of intercultural competence in students. The unprecedented study assists to enrich the limited body of knowledge about virtual exchanges in Brazil. The units of analysis consisted of member institutions of the Brazilian Association for International Education (FAUBAI) that were already running virtual exchange programs in 2020. The study follows an exploratory qualitative research approach based on semi-structured interviews with international office administrators of the institutions analyzed. What stands out among the study's main findings is the fact that, Brazilian international office administrators consider virtual exchanges as an important tool for Internationalization at Home, and thus, a path toward a more inclusive internationalization model. Even with all the difficulties, such as: major technical issues, low level of language proficiency in faculty and students, lack of commitment and the disadvantages deriving from lack of a deeper and more intense cultural immersion when compared to real-life experiences, there is a consensus that virtual exchanges do contribute toward the development of intercultural competence in students. Therefore, it seems important to promote more Internationalization at Home initiatives to create more circumstances of proximity with other cultures and second-language learning opportunities.*

Keywords: *internationalization, student exchange, intercultural education, virtual learning*

Resumen: *Este artículo presenta los resultados de un estudio realizado en el ámbito del sistema brasileño de educación superior, el cual analizó las contribuciones de los programas de intercambio virtual al desarrollo de competencias interculturales en el cuerpo estudiantil. Dicho estudio de carácter inédito favorece la expansión del conocimiento, aún limitado, sobre los intercambios virtuales en Brasil. Las unidades de análisis fueron las instituciones miembros de FAUBAI- Associação Brasileira de Educação Internacional (Asociación Brasileña de Educación Internacional), que ya estaban realizando programas de intercambio virtual en 2020. La metodología se basó en el método cualitativo de carácter exploratorio, compuesto por entrevistas semiestructuradas con gestores de las oficinas de relaciones internacionales de las instituciones objeto de estudio. Entre los principales resultados y conclusiones del estudio se destaca que, según los sujetos de la investigación, los intercambios virtuales constituyen una herramienta importante de internacionalización del campus y pueden ser un medio para un modelo de internacionalización más inclusivo. A pesar de ciertas dificultades, tales como: problemas técnicos, desconocimiento de idiomas, falta de compromiso, así como la desventaja que resulta de la promoción de experiencias no tan profundas e intensas de inmersión cultural, en comparación con los intercambios presenciales, existe un consenso en el sentido de que los intercambios virtuales contribuyen al desarrollo de competencias interculturales en el cuerpo estudiantil. Por esta razón, es importante promover iniciativas de internacionalización del campus para que se puedan crear situaciones de proximidad con otras culturas, así como oportunidades de aprendizaje de otros idiomas.*

Palabras clave: *Internacionalización, intercambio estudiantil, educación intercultural, aprendizaje virtual*

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1.   Introduction

Within the context of higher education internationalization, *Virtual Exchanges* (VEs) can be considered as an *Internationalization at Home* (IaH) activity that may contribute toward the development of intercultural competence in non-traveling students.

In the Brazilian higher education system, VEs are a relatively recent phenomenon. *Collaborative Online International Learning* (COIL) initiatives were widely promoted for the first time among Brazilian Higher Education Institutions (HEIs) at the 2017 annual conference of Brazilian Association for International Education (FAUBAI), which resulted in the creation of the BraVE (Brazil VE) initiative.

Before the outbreak of the COVID-19 pandemic, fewer than 10 HEIs among the 203 members of FAUBAI had implemented VE programs of any kind. One of these pioneers, *Universidade Estadual Paulista* (UNESP), recently published a book about its VE programs developed since 2017 as part of the BraVE initiative, and present their role within the institution's IaH initiative (Salomão and Freire Junior, 2020). The publication constitutes an important contribution to research about the current state of VEs in Brazil. Bassani and Buchem (2019) and Kopish and Marques (2020) have conducted empirical case studies about how VE can contribute to the development of intercultural and global competences in undergraduate and graduate students. In general, however, the number of studies about VE in Brazil is very limited, reflecting the scarcity of VE projects implemented by Brazilian HEIs.

The primary aim of this study is to analyze the contributions of VE to the development of intercultural competences in students of Brazilian HEIs. Other research objectives included: identifying the different programs and approaches to VE developed at Brazilian institutions; understanding the impact of the COVID-19 pandemic on the development of these types of programs in the Brazilian context; recognizing the main benefits and challenges of VEs, according to the international office administrators who participated in the study and; identifying the relevance and future perspectives of this type of activities within the internationalization processes of the institutions analyzed.

2.   Literature Review

2.1   Internationalization of Higher Education

According to the widely accepted definition given by Knight, internationalization of higher education can be understood as an ongoing and continuing effort, "the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of post-secondary education" (2004, p. 2).

The international / intercultural / global triad is used intentionally to reflect all possible dimensions of the process. International means the relationships among nations, cultures, or countries; intercultural has to do with IaH and cultural diversity; whereas global is meant to provide a sense of worldwide scope (Knight, 2004, pp. 7-8). Therefore, internationalization includes policies and practices assumed by academic systems, institutions, and individuals to face the global environment (Altbach and Knight, 2007, p. 291).

Additionally, it is desirable for internationalization to be comprehensive, understood as a firm commitment of HEIs to including international and comparative perspectives in teaching and research, as well as in the outreach mission of higher education. It is something that shapes the institution's philosophy and values, reaching the entire higher education system. Comprehensive internationalization is an institutional imperative, a commitment to be embraced by the institution's leaders, managers, faculty and students, and also by the academic service and support units. Comprehensive internationalization has a major impact on campus life and the institution's international relations (Hudzik, 2011, p. 6).

Advancing the comprehensive internationalization approach, Brazilian scholar Luciane Stallivieri recently proposed to introduce "responsible internationalization" as an additional concept to the discussion about higher education internationalization (Stallivieri and Vianna, 2020). The principles of responsible internationalization – balance, accountability, sustainability, inclusion, and compliance/commitment – should provide a roadmap for HEIs to pursue "the development of high-quality Internationalization, with perceived impact on both local academic communities and global society" (Stallivieri and Vianna, 2020, p. 27). It is also worth mentioning that the implementation of a comprehensive internationalization strategy at HEIs in Latin America is more difficult than in other world regions, particularly when compared to countries of the global North (Gacel-Ávila, 2012, pp. 506-508).

According to Knight (2012), internationalization can be conceptually divided into *cross-border* education and *IaH* (p. 34). Cross-border or transnational education has to do with mobility of people, programs, and providers. It includes the provision or exchange of policies,

knowledge, projects and services across borders, ranging from cooperation activities (semester abroad, dual degrees, or joint degrees) to the commercialization of educational services abroad.

IaH, on the other hand, can be seen as a learning process that promotes awareness and understanding of different cultures through internationalization activities on campus (Friesen, 2012 as cited in González Bello and García-Mesa, 2021, p. 6). The concept of IaH was introduced by Bengt Nilsson in 2000. Nilsson describes how his institution — Malmo University in Sweden, which at that time did not have a network of international partners — successfully internationalized at home by creating an intercultural environment on campus through engagement and interactions with different communities of the multicultural city (Nilsson, 2000). Since then, IaH started to be widely used to reinforce the importance of internationalizing the campus. In 2015, Beelen and Jones (2015) redefined the concept as "the purposeful integration of the international and intercultural dimensions into the formal and informal curriculum for all students within domestic learning environments" (p. 69).

IaH thus embraces the internationalization of the curriculum, encompassing international / intercultural / global themes, foreign languages, and regional studies, as well as activities related to teaching and learning processes, promoting cultural diversity in the classroom such as the active involvement of international students. It also includes joint research projects, co-curricular activities such as international or global leadership development programs, interdisciplinary seminars, and extracurricular activities such as student's clubs and associations, intercultural events on campus, liaison with the local community and ethnic groups, and VE projects (Knight, 2012, p. 35). Therefore, VE in this study is analyzed as part of IaH policies and activities developed by a HEI.

2.2 Virtual Exchanges in Higher Education

Internationalization and VE have both emerged as important yet rather independent trends in higher education (De Wit, 2016). Whereas internationalization was until recently largely identified with cross-border education and mainly the physical mobility of students and scholars, for instance, through the European Erasmus exchange scheme, VE initiatives emerged during the 1990s mainly within the context of foreign-language learning (O'Dowd, 2018).

Common terms for these early approaches were *Teletandem*, *Telecollaboration*, and *E-tandem* (O' Dowd, 2018, p. 6). It was only through the shifting focus in international education

from cross-border to at home over the past decade that a stronger connection between internationalization, intercultural learning, and VE was established. VE consequently became a stronger component for HEIs pursuing a comprehensive internationalization approach (De Wit, 2016).

The denomination VE has been proposed by O'Dowd (2018) as an umbrella term to unite different approaches to "pedagogically structured online collaborative learning projects between groups of learners in different cultural contexts or geographical locations" (O'Dowd, 2018, p. 3). These initiatives connecting classrooms around the globe have been emerging since the 1990s within diverse disciplinary fields, from humanities to business studies, at the same time at different places and using varying terminology, such as *Global Virtual Teams*, *Online Intercultural Exchange*, *Online International Learning*, *Collaborative Online International Learning*, *Global Classroom*, or *Globally Networked Learning Environments*.

O'Dowd (2018) posits that common features of all VEs include:

(…) engagement of groups of learners in extended periods of online intercultural interaction and collaboration with partners from other cultural contexts or geographical locations as integrated part of their educational programs and under the guidance of educators and/or expert facilitators. (p. 5)

While VE has in fact become widely accepted as general term in the European HE context, COIL is more widely used in the Americas (De Wit, 2016), although both terms are frequently used interchangeably, as the websites of the foremost conference in the field International VE Conference (IVEC) and the recently founded Latin American COIL Network (LatamCOIL) demonstrate.[3] COIL as a specific VE methodology has been developed by the State University of New York (SUNY) after 2004.[4] Its particularity resides in a shared-syllabus approach to VE:

(…) the key difference between COIL exchanges and those that come from the foreign language or business studies traditions of VE is undoubtedly the emphasis which is put on examining different cultural and national experiences or interpretations of subject content. While foreign language telecollaboration, for example, usually takes language and culture as the content and focus of an exchange, COIL adds a collaborative and

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[3] Information about the LatAm COIL Network is available at https://www.uv.mx/en/coil/annual-conference/2021/ , accessed on May 3, 2021.
[4] The SUNY COIL Methodology is presented in the institution website: https://coil.suny.edu/, accessed on March 2, 2021.

comparative perspective to the subject content by creating a 'shared syllabus' which is worked on by all participating classes. (O'Dowd, 2018, pp. 14-15)

Over the past 20 years, VEs have evolved technologically and pedagogically as part of IaH initiatives, and they now constitute a valid and more inclusive alternative to physical mobility by offering a larger number of students the opportunity to gain international experience at home and by contributing to both language learning and IC development.

There were obviously other forms of virtual collaboration among HEIs, even before the COVID-19 pandemic, such as virtual research cooperation, and online or blended delivery of collaborative degree programs (Knight and Lee, 2012). Massive Open Online Courses (MOOCs) offered by foreign institutions have supported mass tertiary education in middle- and low-income countries (Amemado, 2019). Yet, VEs with their specific pedagogical approach to enable interactions and collaborative activities among students in different cultural contexts, are understood as the most relevant form of virtual collaboration in higher education for the present investigation about the development of intercultural competence in students through online interactions across borders.

2.3 Virtual Exchanges and Collaborative Online International Learning in Latin America and Brazil

In Latin America, institutions from several countries — such as Argentina, Brazil, Chile, Colombia, Mexico, and Puerto Rico — have taken the lead in VEs. The *Global Classroom* initiative, developed by the *Instituto Tecnológico y de Estudios Superiores de Monterrey* (ITESM) since 2018, based on the SUNY-COIL methodology, is the largest VE initiative in the region.[5]

In 2020, under the impact of the COVID-19 pandemic, a group of Latin American universities (*Universidad Veracruzana* and *Universidad de Monterrey* (UDEM), both in Mexico, UNESP in Brazil, and *Instituto Tecnológico Metropolitano de Medellín* (ITM) in Colombia created the *Red Latinoamericana COIL* (LatamCOIL Network) with the goal to foster COIL (shared syllabus) type VEs initiatives at the higher education level in the region. The network was officially launched in July 2020 and held its first annual conference in June 2021, aiming

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[5] Global Classroom by ITESM. More information about the Global Classroom at ITESM is available at: https://www.tecglobalclassroom.mx/, accessed on March 2, 2021.

to enhance COIL projects among institutions in the region and between Latin America and other parts of the world. As of June 2021, 15 out of 153 institutional LatamCOIL members are Brazilian, demonstrating a growing interest in VE.

Before the outbreak of the COVID-19 pandemic, however, VE initiatives were relatively uncommon in the Brazilian higher education system, despite the efforts undertaken by FAUBAI since 2017 to promote this kind of cooperation among its members. Among the 203 FAUBAI member institutions which can be considered the most internationalized in the country, fewer than 10 were engaged in VE projects prior to the COVID-19 outbreak.[6] This low number is even more striking considering the fact that the Brazilian higher education system with its more than 8.6 million undergraduate students enrolled in 2,608 HEIs (Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira [Inep], 2020) is by far the largest in Latin America.

The first online collaboration initiative, *Teletandem Brasil* program for language learning, was launched by UNESP as early as 2006 with partner universities in the United States of America, Mexico, Colombia, Germany, and Italy, reflecting the language learning approach to VE that was prevalent at that time.[7] Similarly the program *Teletandem UEPB*, a Brazilian-Argentinian network initiative between Universidade Estadual de Paraíba, Universidade Federal de Pernambuco, Instituto Federal de Paraíba, from Brazil, Federal Institute of Latin American Integration, and the Institute of Languages of Salta (Argentina) enabled students to engage into collaborative and linguistic exchange activities in Portuguese and Spanish. In 2013, Centro Paula Souza (CPS), a network of vocational schools from the state of São Paulo, started the first Brazilian COIL program, in cooperation with SUNY Ulster (Succi Junior, 2020).

In 2015, UNESP invited Professor Jon Rubin, founder of the SUNY COIL Institute, to visit Brazil and conduct COIL training at UNESP and hold a workshop at the annual FAUBAI conference (Salomão and Freire Junior, 2020). Finally, at the 2017 FAUBAI Conference, Professor Jon Rubin, Professor Sarah Guth (representing the European VE network

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[6] Before 2020, VE projects had been implemented, mainly, by the three founding members of BraVE: *Universidade Estadual de São Paulo*, *Cento Paula Souza* and *Universidade Federal de Pernambuco*. Nevertheless, other institutions were also developing this kind of cooperation before the outbreak of COVID-19 pandemic. Among them, we can mention: *Universidade de Caxias do Sul*; *Instituto Federal do Triângulo Mineiro in Uberaba* (Kopish and Marques, 2020); *Centro Universitário Christus* (UNICHRISTUS) which information about VEs is available at the institutional magazine: https://unichristus.edu.br/wp-content/uploads/2019/12/Revista-Interagir-N%C2%BA-107-1.pdf, accessed on June 10, 2021; *Universidade Feevale* (Bassani and Buchem, 2019) and finally *Fundação Armando Alvares Penteado* with its Global Classroom initiative, which started in 2017. Further information about this program is available at: http://cursos.faap.br/descricao/the-global-classroom-politica-internacional-contemporanea/1199, accessed on June 10, 2021. Whereas other institutions turned their attention to this kind of initiative in 2020 due to the pandemic of COVID-19.
[7] Further information about this initiative can be found at: http://www.teletandembrasil.org/, accessed on February 16, 2021.

UniCollaboration), Professor GianMario Besana, Associate Vice-Provost for Global Engagement at DePaul University in Chicago, responsible for DePaul's VE program *Global Learning Experience*, and Professor Oswaldo Succi, COIL coordinator at CPS, were invited as keynote speakers to promote VEs in Brazil (Salomão and Freire Junior, 2020).

As a consequence of the aforementioned initiatives, FAUBAI — with the support of UNESP, CPS, and the Federal University of Pernambuco (UFPE) — created the Brazilian VE Program (BraVE) in 2018. By 2020, BraVE members had promoted more than 50 COIL projects with SUNY, DePaul University, and other partners in various academic fields, including literature and language learning, engineering, chemistry, agricultural sciences, education, medicine, dentistry, and business management, among others, connecting more than 1,000 undergraduate students from Brazil.[8]

Despite all these successful initiatives, it is essential to draw the attention to the technological challenges faced by HEIs in Latin America and the Caribbean. Notwithstanding the considerable expansion of the access to higher education in the region over the past two decades, there are huge digital gaps caused by the unequal access to information and communication technologies, for instance: between urban and rural areas, affluent and underprivileged students, or public and private HEIs. These gaps hinder access to e-learning and virtual education offerings for a significant portion of students in the region[9].

The outbreak of the COVID-19 pandemic led, in education, to so-called Emergency Remote Teaching or Corona-teaching, which consisted mainly in migrating synchronous lessons from the classroom using videoconferencing tools, often without having adequate technological tools or methodological preparation. The success of this sudden and disruptive shift to remote education varied by size, governance models, and disciplinary differences. It was more difficult for comprehensive institutions and more challenging for practical disciplines such as lab work, practical experience, and arts workshops (International Association of Universities [IAU], 2020, p. 9).

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[8] UFPE has implemented, in 2018 and 2019, 26 programs with more than 400 students participating; CPS is running every semester 20 VE programs involving more than 500 students. Further information about BraVE initiative and VE programs of its founding members CPS, UFPE and UNESP is available at FAUBAI's website: https://faubai.org.br/pt-br/webinarios-faubai-brave-sobre-intercambios-virtuais/, accessed on February 16, 2021.

[9] According to the World Bank, internet broadband reaches less than 50% in the Latin American region. Retrieved from: https://blogs.worldbank.org/latinamerica/closing-digital-gap-end-poverty-latin-america-and-caribbean, accessed on May 18, 2021. Although distance learning has been expanded by 73% since 2010, rising from 2.5 million online learners to 4.3 million in nearly seven years, the offer has been concentrated at a small group of universities and mainly at the postgraduate level (Observatorio Iberoamericano de la Ciencia, la Tecnología y la Sociedad, 2019).

In Latin America, specifically, many HEIs had to interrupt their activities for a certain period of time in order to figure out how to manage such transition (IAU, 2020; Martínez-Bello, Díaz-Barahona and Bernabé-Villodre, 2021). International student mobility, which had traditionally been the prevalent internationalization activity in the region, was nearly completely interrupted in 2020 and is unlikely to retake before 2022. Just as the entire teaching–learning process, internationalization activities had also gone virtual within no time, leading to an increased attention given to VE, virtual mobility, and other forms of virtual cooperation in higher education.

2.4 Intercultural Competence as a Result of Internationalization of Higher Education

In the context of internationalization of higher education, intercultural competence (IC) is usually studied as a desirable result of this process and considered essential, as we inhabit a globalized, interdependent, and multicultural world. Challenges arising from this will most efficiently be addressed by individuals who, aside from possessing the necessary technical skills, have soft skills that allow for the production of innovative and creative solutions, as well as intercultural competences for the promotion of intercultural dialogue and international cooperation.

There are several definitions and terms used to refer to IC. Some scholars refer to competence in communication or intercultural communication; others describe it as global competence or global mindset, global learning, cultural learning, intercultural effectiveness, education for democracy, cosmopolitan citizenship, interculturality, and intercultural competence (Bennett, 2009; Schmidmeier and Takahashi, 2018).

In an effort of conceptualization, American scholar Darla Deardorff carried out a Delphi study with specialists on the subject matter and administrators of HEIs in the US. For its relevance and originality, this work constitutes an important advance in the theory of internationalization of higher education and is the principal theoretical benchmark in its area. The study's most significant takeaway was determining the first consensual definition of IC (developed with specialists in the field), which came to be understood as "the ability to communicate efficiently and appropriately in intercultural situations based on one's intercultural knowledge, skills, and attitudes" (Deardorff, 2008, p. 33).

In addition, IC involves a set of elements presented in dimensions, including knowledge, attitudes, and abilities. Below, Table 1 shows these elements or dimensions that together constitute IC. This table was the basis for our questionnaire interview script.

Table 1
Intercultural Competence Dimensions and Subdimensions Framework, 2020.

	Knowledge	Attitudes	Abilities
Intercultural Competence	About countries and cultures About the world About our own culture About the globalized world Other language Understanding the cultural concept Understanding diversity Understanding diverse perspectives Understanding cultural patterns	Openness Cultural self-awareness Acceptance Tolerance Empathy Respect Value diversity Sensitivity Curiosity and Discovery	Practice of the Profession Organizational abilities Technical skills Effective interaction with others (ethnorelative view) Teamwork skills Creative thinking Listen, observe, and interpret Analyze, evaluate, and relate Critical judgment Interact Adapt

Source: Adapted from Deardorff (2004, pp. 187-186, 196).

As previously stated, internationalization and IC are interrelated. On the one hand, enhancing students' IC is a strong rationale for internationalization as observed in various studies conducted by the International Association of Universities (IAU) with more than 100 countries in 2003, 2005, and 2009, to understand the reasons why HEIs invest in internationalization (IAU, 2010; Knight, 2012). The results show that the main rationale for internationalization (in 2005 and 2009) was to train students to become competent in intercultural and international issues. In another study carried out by the same association in 2005 with HEIs in Latin America, the main reason was to strengthen research and knowledge capacities (28%), followed by increasing academic quality standards (24%) and enhancing international and intercultural learning (21%) (De Wit, 2009, p. 78).

On the other hand, internationalization contributes to the development of IC in students because HEIs, upon developing and implementing their internationalization processes, establish their objectives and strategies and foster a vast range of activities. In this way, by including global, international, and intercultural dimensions in their functions, these HEIs create situations of initial connection, dialogue, and meaningful exchanges between cultures, which permits the development of IC.

Certain dimensions of internationalization (understood as activities) are considered to contribute more than others to the development of IC. Those dimensions that promote experiences of direct contact with other cultures generate more possibilities of acquiring intercultural competences, as they promote proximity, dialogue, and intercultural interaction. However, it is necessary to emphasize that other dimensions that generate other types of contact or experiences also contribute to the development of IC, and their role for the internationalization process should not be underestimated.

For this reason, it is important to promote IaH by creating circumstances of proximity to other cultures and second-language learning opportunities. In this scenario, VEs, enhanced by the growing use of information and communication technologies (ICT) in education, contribute to new forms of cooperation amid HEIs worldwide and to the development of IC in those students who have no possibilities of studying abroad.

3. Research Method

3.1 Approach

This study is based on an exploratory qualitative research method conducted with member institutions of Brazilian Association of International Educators (FAUBAI), from November 2020 to March 2021.

Qualitative research is when "researchers study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them" (Denzin and Lincoln, 2011, p. 3).

An exploratory approach is used to gain a general understanding of a study subject and investigate problems that are not yet clearly defined: "researchers *explore* when they have little or no scientific knowledge about the group, process, activity, or situation they want to examine" (Stebbins, 2001, p. 5). The goal of exploration is to generate new ideas for future grounded theory. This is the case of the local unprecedented study whose aim is to analyze the contributions of VE to the development of IC in students of Brazilian HEIs.

3.2 Participants

The units of analysis consisted of Brazilian HEIs that were, firstly, members of FAUBAI and secondly, had already implemented VE programs at the time of the research. The study population consisted of 27 HEIs that according to information obtained in a previous survey conducted by FAUBAI, fulfilled the pre-established criteria.

Research subjects who participated in the study, conducted from November 2020 to March 2021, were administrators of the international offices at the analyzed HEIs. From a list of 27 administrators who were contacted by e-mail several times, we got a positive answer from 10, representing two public (federal and state universities) and 8 private institutions (universities, university centers, and colleges) in the states of São Paulo, Minas Gerais, and Goiás. All interviewees consented to participate in the study. Interviews were recorded with their permission.

3.3 Instruments

With the aim of obtaining data about the research topic, semi-structured interviews were performed online, using ZOOM videoconferencing software. All interviews were recorded, with the agreement of the interviewees, and transcriptions were made to process the collected data. The purpose of the interviews was to explore the views, experiences, beliefs, and motivations of the interviewees about the research topic. Therefore, the questionnaire was built based on the theory of IC and VE.

Among the topics addressed in the questionnaire we find: terminology and concept of VE according to the research subjects; description of VE activities developed by the HEIs represented by the research subjects; benefits and challenges of these programs; the importance of VEs for IaH initiatives; impact of Covid-19 pandemic on the internationalization activities and with regards to the decision to new VE programs or expansion of existing ones; the question of whether and how these programs bring contributions to the development of IC in students and future perspectives for VE in the analyzed HEIs. In this part, particularly related to IC, sets of closed-ended questions were requested to check what kind of knowledge, attitudes, and abilities (using the IC framework presented in table 1) were contemplated in the VEs programs developed by the analyzed HEIs, according to the research subjects.

3.4. Data analysis

Data analysis was based on the content taken from the interviews with the support of Atlas Ti 8 software. The following categories were pre-conceived and adapted during the process of analysis: Concept of VE; Methodology and format of VE; Benefits, challenges, relevance, and perspectives of VE; Impact of COVID-19 on VE programs and Contributions of VE to the development of IC in students.

4.   Results and Discussion

The results of the study are presented according to the categories of analysis.

4.1   Concept of Virtual Exchange

The term most used by the analyzed HEIs is COIL, as indicated by eight administrators of international offices, followed by other terms such as *Global Classroom* and *Global Learning*.

In general, the institutions analyzed understand the concept of VE in contrast to virtual mobility. According to the international officers, a distinctive feature of VE is "when lecturers from different institutions build together the learning outcomes of an undergraduate or graduate course delivered online."

Virtual mobility, on the other hand, is characterized by "a local student joining an international course online" and, more specifically, a student remotely attending a curricular course delivered online by a partner institution abroad. In the latter case, there is no contact or cooperation between the professors of the subject or field of study.

4.2   Methodology and Format of Virtual Exchange

As stated before, the main methodology used at the analyzed HEIs is COIL. However, there are other programs such as research projects, workshops, or international weeks that some of the interviewees also considered within the scope of VE, although they do not meet the criteria previously described. The offer is also diverse, with programs developed in various fields of study and in different formats. The predominant language is English; however, there are also activities developed in Spanish. The main countries represented in these programs are USA, UK, France, Colombia, Mexico, Germany, and the Netherlands. More information is presented in Table 2.

Table 2
VE programs in Brazilian HEIs participating in the study, 2020.

Fields of study	Format and duration	Countries	Language
More than 30 courses in Human Sciences, Social Sciences, Exact Sciences, Biology and Medicine	Regular subjects organized in synchronous + asynchronous lessons (usually in 1 term) using diverse technologies.	USA and Mexico	English and Spanish
Business, Psychology	4-week program with synchronous meetings. Another project is based on 2 meetings as part of a regular discipline. Mainly using Zoom.	Japan and Colombia	English and Spanish
Engineering	Elective courses using Zoom, Skype, or Microsoft Teams.	Portugal, USA, Columbia, and Mexico	English
Language, Communication, and Culture Course	Extension course.	UK, with institutions from other countries (Malaysia, South Korea, China, and Morocco)	English
Energy and Research in Philosophy	Regular course offered per term (asynchronous + synchronous lessons). One extension course.	USA	English
Marketing and Agribusiness	1-month extension course 2-month subject, part of a Master's Program.	Colombia (Also with institutions from Chile, Germany, Switzerland, Argentina, and France)	English
Marketing, International Relations Interactive week of Entrepreneurship	Extension courses in 1 term (Synchronous + asynchronous lessons) using CANVAS, Microsoft Teams, Zoom, and videoconferencing.	USA (also with institutions from India, UK, France, and South Africa) Netherlands (Also, with institutions from: USA, Spain, Belgium, Argentina, Turkey, and Zimbabwe)	English
8 to 10 projects including Research projects and Applied Research in Engineering. Short courses, Workshops, and Capstone projects Supervision	From cooperation to research, workshops and short courses, using diverse technologies.	Portugal, Germany, Bolivia, and Peru	English and Portuguese

Source: Own creation based on international office administrators' answers, 2020.

4.3 Benefits, Challenges and Disadvantages, Relevance, and Perspectives of Virtual Exchange

Among the main benefits mentioned by the participants in the study are the following: VEs are seen as an important tool for IaH; they contribute toward the development of intercultural competence in students; they enhance the internationalization process and thereby enable a larger number of students to interact with individuals from different cultures, learn about cultural differences, and overcome cultural barriers.

Regarding the challenges of virtual cooperation, the subjects of the study cited language barriers[10] in first place. Other challenges mentioned included difficulties in promoting these programs at their institutions, motivating students to partake in this kind of VE and lack of commitment and support from the academic staff. Among the main disadvantages in developing VE programs the interviewees pointed out: time zone differences (especially in synchronous lessons), and technical issues, particularly Internet connectivity problems. Additionally, one of the interviewees stated that VE is not the same in scale and depth as on-site activities which usually include real-life experiences and immersion in a specific culture that cannot be reproduced in a virtual setting.

All participants agreed with the fact that VE will become more relevant for the internationalization of higher education. Insofar as virtual and blended learning will probably remain part of the regular educational activities developed by HEIs in post-pandemic times, virtual programs are likely to become a pillar of international cooperation within higher education. "There is no way back" seems to be the new catchphrase among international office administrators.

Finally, when it comes to the importance of VE in the internationalization processes of the institutions analyzed, there is also a consensus that these activities promote international opportunities for more students, including those who usually cannot participate in programs abroad. Therefore, there is a direct relation between virtual cooperation initiatives and a more inclusive approach to internationalization.

At some institutions, these are part of the strategic internationalization plan and aligned with the institutional development plan. These institutions already have a specific institutional

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[10] In 2013, only 5% of the population over 16 in Brazil stated to have some knowledge of English and less than 1% claimed to be fluent; cf. British Council and *Instituto de Pesquisa Data Popular* (2014). The study Learning English in Brazil is available at: https://www.britishcouncil.org.br/sites/default/files/learning_english_in_brazil.pdf, accessed on March 23, 2021.

coordinator for VE programs. In other cases, HEIs are carrying out these activities as pilot projects, aiming to scale them up and establish them as regular internationalization activities.

4.4 Impact of COVID-19 on Virtual Exchange Initiatives

Since student mobility was highly affected by the pandemic, some institutions focused on virtual mobility and VE to offer their students alternatives for study abroad programs. At some of the institutions analyzed, VE was an activity already developed as a part of their internationalization plan, which helped attenuate the impact of the pandemic. These institutions took the opportunity to enhance their plans by showing their academic community the importance of VE programs.

In other cases, the disruption caused by the COVID-19 pandemic was a trigger for more discussion and development of VE that already existed but was not frequent or well-defined in the internationalization strategic plan. Some institutions established VE in 2020 as a reaction to the COVID-19 outbreak, giving students the opportunity of having intercultural interaction in a virtual classroom. These institutions will have to promote further internal discussions to assure continuation of these programs after the pandemic.

Interviewees agreed that the pandemic has increased the acceptance of virtual education formats, including virtual mobility and VE, both considered innovative forms of internationalization. There is doubt about the future of virtual mobility, established as an alternative to replace regular student mobility, which was interrupted during the time of the pandemic. In contrast, there is no doubt about the growing importance of VE in higher education internationalization and its role as a strategic tool of IaH.

4.5 Contributions of Virtual Exchange to the Development of Intercultural Competence in Students

International office administrators participating in the study agreed that VE contributes to the development of intercultural competence in students in all three dimensions of the IC framework based on Deardorff's research – abilities, attitudes, and knowledge.

Among the skills and abilities enhanced through these projects, the ones most frequently mentioned are the ability to work in multicultural teams and the ability to interact effectively with individuals from other cultures. One interviewee pointed out that VEs also train one's capability to communicate and collaborate in cross-cultural virtual environments. Several interviewees highlighted that VEs require participant's adaptability and flexibility in multiple senses and

situations: regarding linguistic challenges, cultural habits and working styles, time zone differences, and use of VE tools, among others.

In contrast, skills such as creative thinking and the abilities to observe and to analyze are not seen as competences that are specifically well-trained through this kind of cooperation. In addition, participants of the study do not think that VE contributes significantly to the development of technical competences in the respective field of study. Finally, only one of the participating international officers expressed doubts as to whether online exchanges could develop intercultural skills and abilities as effectively as face-to-face programs.

Regarding attitudes, the second dimensions of the IC framework, VE projects carried out at Brazilian HEIs, according to the interviewees, contribute to raising the awareness of cultural identities (including the student's own cultural identity) and cultural diversity, as well as sensitivity for cultural differences. This sensitization leads to an improved acceptance of cultural differences and respect for other cultures, even if this process takes time, as one interviewee stressed. In line with this observation is the remark that the development of cultural tolerance contributes toward reducing initial presumptions, as another interviewee added.

Student's proactiveness and their increase in self-confidence stand out among the additional attitudes mentioned by the participants, which are not part of Deardorff's model. The student mobility coordinator of a public university emphasized how VE programs at her institution helped disadvantaged students with little previous intercultural experience and limited foreign-language competences to become confident in navigating through intercultural situations in foreign language environments.

The most frequently cited areas of knowledge developed through VEs are the knowledge about cultural differences and different cultural patterns, including insights about one's own culture. This gain in knowledge about culture(s) resonates with the above-mentioned development of more positive attitudes toward cultural diversity. Moreover, the interviewees contend that students gain knowledge about other countries and about the functioning of the globalized world. In contrast, the increase in subject-specific knowledge is mentioned less often.

All participants agreed that VE significantly contributes to developing student's language skills and the ability to effectively communicate in a foreign language, both in communications with native-speakers and in using Global English as a *lingua franca*. Several interviewees emphasized that these activities could help students overcome psychological barriers in using a foreign language and increase their self-confidence in their ability to communicate effectively

in a foreign language, even when their proficiency is limited. This is an interesting and relevant finding. It demonstrates how VEs may contribute toward significantly increasing the number of Brazilian students — including those from disadvantaged backgrounds — with a sufficient level of intercultural and linguistic competences that enables them to take part more actively in cross-cultural interactions in the globalized world.

5. Conclusions

The findings of this exploratory study suggest that VEs can effectively contribute to the development of IC in HE students. According to the international office administrators of Brazilian HEIs interviewed in the research, and using the IC framework, the main abilities developed through these programs are: the capacity to work in intercultural teams and interact with individuals from different cultures. Attitudes, such as raising the awareness of cultural identities, cultural diversity, and sensitivity to cultural differences are also promoted through VE. However, the enhanced competence to effectively communicate in a foreign language, mainly in English and Spanish, is seen as the most beneficial part of such programs. Finally, knowledge about other countries and cultures and the functioning of a global society can also be expanded by means of VEs.

By VE, the interviewees primarily understand student-centered cooperation projects, following COIL methodology, involving professors from different institutions, who mutually define the learning outcomes and design the course content of a specific online program. However, other formats of virtual collaboration among HEIs, such as virtual student mobility, were also mentioned, demonstrating a certain lack of conceptual accuracy regarding the term VE.

The main benefit of VE, from an institutional perspective, is that these programs constitute an important tool for IaH and a more inclusive approach to internationalization. VEs are seen as an efficient way of integrating international, intercultural, and global perspectives to on-campus activities and include those students who usually have no opportunities to study abroad.

The most frequently mentioned challenges for the implementation of VE programs are to draw the attention of faculty and students to the relevance of these programs and to motivate them to actively participate. As further difficulties the interviewees reported the lack of language proficiency among faculty and students and technical issues, particularly Internet connectivity problems. Among the disadvantages of VE cited were time zone differences and the lack in

depth and intensity of in terms of cultural immersion in comparison to real-life experiences and in-person exchanges.

All in all, the COVID-19 pandemic has contributed to strengthening the development of VE initiatives in Brazilian HEIs. Some of the institutions that already carried out VE programs before the pandemic took the opportunity to expand these initiatives. Other institutions established ad hoc VE projects as a reaction to Covid-19 outbreak and alternative for study abroad programs. These HEIs will have to prove the sustainability of these initiatives.

There is a consensus among the international office administrators interviewed for this study that VE programs will become more relevant for the internationalization of Brazilian HEIs in the future. Consequently, it is important to develop them by creating a permanent offer and to incorporate them as a key activity in the internationalization strategy aligned with the institutional development plan.

To develop a more inclusive approach to internationalization, a critical issue within the Brazilian context, it is important to promote IaH by creating circumstances of proximity to other cultures and second-language learning opportunities. VEs might not be the most powerful way of developing IC in students, since activities that promote experiences of direct contact with other cultures, such as study abroad or regular and meaningful interactions with international students on campus, generate more possibilities of acquiring intercultural competences. In this sense, there would be a correlation between the level of exposure to another culture and IC development. Some IC developmental models introduce this idea by presenting sequential stages of IC acquisition that vary according to the time and quality of immersion in another culture (Bennett, 1986; Gullahorn and Gullahorn, 1963; King and Baxter Magolda, 2005).

However, in a scenario of growing use of ICT in education (imposed and reinforced by the COVID-19 pandemic), new forms of cooperation between HEIs arise, and should be not underestimated in achieving the goal of developing IC in students.

Finally, it is important to highlight that the results and conclusions of this study are limited to the participating Brazilian HEIs, considered pioneers in incorporating VEs into their internationalization processes. Hence, these conclusions should not be analyzed as representative of neither the Brazilian higher education system as a whole nor all FAUBAI members, given that the sample was not based on quantitative parameters.

Nevertheless, it should be noted that the exploratory nature of this study reveals the voice and vision of Brazilian HEIs' aim to develop internationalization, VEs, and IC. Further research should be undertaken in order to continue and strengthen the findings of this project.

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