

## DIGITAL RESOURCES AND ENGLISH AS AN ADDITIONAL LANGUAGE IN HIGHER EDUCATION: POSSIBILITIES FOR INTERNATIONALIZATION

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### Abstract

This study aims to discuss some possibilities of adopting digital resources for using English as an additional language (EAL) in the process of internationalization of higher education. The literature review includes approaches such as COIL, MOOCs and EMI used globally, and is contrasted with local evidence of the adoption of digital resources and EAL use in a Brazilian university. The study used a bibliographic research methodology, combined with a literature review, to discuss digital resources as part of approaches for using EAL in internationalization, contrasting with local evidence in the university investigated. Results of the study suggest that the use of digital resources is necessary to promote a more comprehensive process of EAL use in higher education internationalization. The conclusion indicates that a combination of digital resources and alternative approaches can foster language use for internationalization in higher education institutions.

**Keywords:** English as an Additional Language (EAL); Digital Resources; COIL; EMI, Brazil

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## 1. Introduction

The use of digital resources<sup>1</sup> in education is not new. Nowadays, it is hard to imagine educational practices without including the affordances offered by the information and communication technologies (ICTs), considering the disruptions caused by the Covid-19 pandemic with its limitations for in-person classes. In regards to language teaching in Brazil, the focus and context of this study, Finardi and Porcino (2014), for instance, discuss various technologies and methodologies used in English Language Teaching (ELT), reviewing approaches and methods<sup>2</sup> such as Computer-Assisted Language Learning (CALL), Content and Language Integrated Learning (CLIL), Massive Open Online Courses (MOOCs) and WebQuests.

Several higher education institutions (HEIs) had to quickly switch from face-to-face classes to emergency remote education (ERE), which is different from planned activities and practices, such as distance education<sup>3</sup> (Bozkurt, 2020). For Bozkurt (2020), despite the emergence of other terms, in different contexts, to refer to educational practices (e.g., e-learning, distance education, homeschooling, online education, etc.) during the Covid-19 pandemic, they do not capture the reality of these practices. This author suggests adopting ERE, instead of distance education, as a generic term, since the latter is an option whereas the former became an imposition of social distancing measures during the pandemic. The term ERE captures the drastic change in teaching/learning practices after the interruption of in-person education and “is about surviving in a time of crisis with all resources available, including offline and/or online” (Bozkurt, 2020, p. 2).

According to the International Association of Universities (IAU)<sup>4</sup>, more than 1.5 billion students worldwide are affected by university closures due to the pandemic. Both teachers and students have had to make efforts to adjust/adapt to this new scenario. The Global Survey Report 2020 by IAU indicates that 59% of the institutions reported that all campus activities stopped, with institutions completely closed. One year after this IAU report, the Inside Higher Ed website<sup>5</sup> indicates that restrictive measures continue, and many students still study from home.

UNESCO<sup>6</sup> issued several recommendations as a response to Covid-19 and its impacts on education, including guidelines for health during home learning; emotional well-being in times of crises; distance learning strategies in response to university closures; support for teachers and education personnel during crises; and sustaining quality outcomes in contexts of remote learning (and others). Regarding the use of digital resources, those recommendations indicate the need to provide Internet access and equipment to students, and prepare teachers and students adequately to use digital resources in virtual classrooms and environments.

In the Brazilian context, the Ministry of Education (MEC)<sup>7</sup> initially issued an official document to authorize ERE until the end of 2020 – and the deadline had to be extended (indefinitely), due to the current situation of the pandemic in Brazil. The Brazilian Association for International Education (FAUBAI)<sup>8</sup> created a repository to collect information on the progress of measures, recommendations

and scientific advances to mitigate the effects of the pandemic in the realm of international higher education (HE) in Brazil.

In Brazil, unequal access to digital resources (in general), and to Internet connection (in particular), caused public primary/secondary schools and HEIs to close down completely, in the first months after the Covid-19 outbreak, and reinforced privileges for a small part of the population which has access to private education supported by technologies. In terms of higher education, 88.4% of Brazilian HEIs are private and 11.6% are public, according to the most recent data so far, from the Brazilian Higher Education Census<sup>9</sup> in 2019. After fierce criticism from various sectors of the Brazilian society, national and local governments adopted measures to support ERE in all sectors of education. The ensuing adoption of ERE during the pandemic highlighted the reality of inequality/disparity among students, limitations in terms of access to technology, lack of experience by teachers to deal with online technologies, and unprepared academic staff, in general.

According to the third edition of the ICT Panel Covid-19<sup>10</sup>, data collection was carried out between September 10<sup>th</sup> and October 1<sup>st</sup> in 2020, with Internet users/participants aged 16 years and older. Research findings of that panel indicate that mobile phones are the most used devices by Internet users of the lower class (54%) for ERE, compared to the percentage of the middle class (43%) and the upper class (22%). In general, mobile phones (69%<sup>11</sup>) are the main device for participation in ERE activities. The use of computers (laptops, desktops and tablets) as the main device for ERE is greater in the upper class (66%), being less accessible to students from the middle class (30%) and the lower class (11%). In addition, the ICT Panel Covid-19 report points out that the lack or low quality of the Internet connection (36%) is the main reason not to participate in ERE in general.

The lack of ICT skills, necessary to learn online and participate in a digital society, is still a barrier to effective ICT use. According to the International Telecommunication Union [ITU] (2020), ICT skills are measured based on whether an individual has recently performed a particular activity that requires a certain level of skills (e.g., sending an e-mail with an attachment, using a search engine, downloading contents/files from the Internet, attending an online class, etc.). In Brazil, the percentage of people having “basic” ICT skills is between 20-40%, considering the proportion of the population. The rate of Brazilians with “standard” and “advanced” ICT skills are 0-20% and 0-5%, respectively. ITU defined this categorization of basic, standard and advanced skills, related to the level of complexity for participating in the digital society and learning online – including the activities already discussed above (e-mail, search, download, etc.).

Considering the current use of digital resources<sup>12</sup> in Brazil, especially in education, it is also important to reflect on the impact of adopting technologies in higher education (HE) and internationalization of HE. In this study, we present our discussion in the following stages: (1) use of technologies in education; (2) use of technologies in higher education (HE); (3) use of technologies in the

internationalization of HE; (4) adoption of technologies in internationalization of HE for language use.

For Altbach and De Wit (2020a), online learning/teaching is a time-consuming activity that requires necessary institutional support/engagement to be possible in the current scenario. However, these authors warn that idealizing the rapid change to “online education” without considering the two factors mentioned previously (online learning being a time-consuming activity and the need for institutional support) may wind up in a low-quality learning and teaching process.

Having outlined this panorama, this study aims at discussing, through a literature review contrasted with local evidence, how digital resources can support the use of English as an additional language (EAL), defined as any language except the first language, in the process of internationalization of higher education. The term “additional language” is used following the works of Bussert-Webb and Díaz (2019) and Cameron (2002).

## 2. Literature review

In order to discuss possibilities for incorporating digital resources into EAL use in higher education (HE) settings, within processes of internationalization, we conducted a literature review to identify recent trends and recommendations concerning approaches and resources which may support the use of EAL in the context of HE internationalization. This review includes concepts such as the use of technologies in education, internationalization, collaborative learning, online courses and English in academic settings. The literature review was later contrasted with local evidence for the use of digital resources and EAL in a Brazilian university.

### 2.1 Adopting technologies for education

Currently, Information Technology (IT) experts around the globe have migrated courses/programs to online platforms, mainly because of the disruptions caused by the pandemic in education. Regarding higher education, the focus of this study, the tech industry has profited by this apparent “new revolution” in learning<sup>13</sup> whereby HEIs migrate in-person classes and activities to the virtual mode. Nowadays, popular platforms used for educational purposes include Khan Academy, Duolingo, Google Classroom, PhotoMath, Udemy, edX, and SoloLearn – they are briefly described in the following paragraph.

Khan Academy offers online educational tools and contents in various fields, including short video lessons with supplementary practice contents for both teachers and students. Duolingo is a language-learning website and mobile app which offers a language proficiency test. Google Classroom is a web service to facilitate the creation, distribution and grading assignments, by sharing files between teachers and students. PhotoMath is a mobile application, which uses

a phone's camera to analyze mathematical equations to display the solution onscreen. Udemy is a provider of massive open online courses (MOOCs) in many areas, aimed at adults. EdX is also a MOOC platform offering university-level online courses in various fields. SoloLearn is an app for coding which offers short lessons, code challenges, and quizzes.

However, significant inequalities can be seen in the use of tools mentioned above and in the provision of higher education services through ERE, with substantial differences and disparities in how online education is offered and received (Altbach & De Wit, 2020b). This is particularly relevant in lower-income countries (Leal, 2020), where broadband services are inadequate (or even inexistent), and students do not have access to suitable computers, having to resort to smartphones for learning, in courses they are forced to take online through ERE, especially now, because of the restrictions to in-person classes, related to the Covid-19 pandemic.

Some faculty members also face several challenges in the use of technologies in education, such as the lack of experience with digital resources for teaching, and the low motivation to learn new methods/skills that incorporate these technologies (Stallivieri, 2020; Altbach & De Wit, 2020b), since online teaching usually requires more time for class preparation than face-to-face teaching (Altbach & De Wit, 2020b). In addition, a great number of courses/contents are not appropriate for the online format, such as the ones which require experiments in laboratories – some courses have been suspended completely, and some have moved to hybrid approaches, with in-person activities regulated by restrictions and safety protocols, to avoid the transmission of Covid-19. However, online courses may be limited in terms of building a sense of community and fostering adequate communication (Altbach & De Wit, 2020b).

In current times, the use of digital resources can support virtual exchange (VE). Such VE needs greater support (Stallivieri, 2020), due to socio-economic gaps and the expansion of internationalization (a concept that is discussed in the next section). Although distance education has become increasingly present in the routines of students and teachers, it does not mean that it is necessarily successful (Altbach & De Wit, 2020b).

Virtual exchanges<sup>14</sup> (De Wit, 2013), also referred to as Collaborative Online International Learning (COIL), Online Intercultural Exchange (OIE), virtual mobility, virtual internationalization or telecollaboration, are defined by Lewis and O'Dowd (2016) as the engagement of students in online intercultural interaction, with students/members from other cultural contexts or geographical locations, for educational purposes, in the context of internationalization of higher education (O'Dowd, 2021). VE links digital resources, social media and internationalization (Lewis & O'Dowd, 2016), by integrating such resources in internationalization activities, such as online classes across institutions.

Regarding the use of VE in HE, O'Dowd (2018) states that all of the aforementioned terms share the same basic methodology and are adaptable to different objectives and learning contexts, and that the heterogeneity of

terms referring to VE “simply demonstrates the lack of communication and collaboration between researchers in this field” (p. 3). Therefore, O’Dowd (2018) suggests adopting “virtual exchange” as an umbrella term for these initiatives.

With the advent of digital technologies, a range of telecollaborative projects emerged around the world (e.g., ‘Soliya’, ‘Cultura’, and COIL – O’Dowd, 2018), bringing students closer to foster idea-sharing and the development of interculturality. As a component of a humanistic education, interculturality seeks to develop the ability to interact with cultural boundaries and understand differences in relation to values, meanings, and beliefs across different cultures.

In the context of higher education and internationalization, online language use is possible with situated practices, such as COIL and “globally networked learning environments” (O’Dowd, 2018), and contact with other cultures. However, innovative approaches (e.g., COIL combines the four essential dimensions of mobility, as stated by De Wit, 2013), still seem to be in their early stages – especially if we consider the Brazilian higher education context, with its low number of effective partnerships, programs and international projects, when compared to other countries (Stallivieri, 2020).

The Internet and the digital resources can provide teachers and learners with opportunities to engage in authentic contexts of communicative language use, offered by virtual exchange. Therefore, the digital resources (and other Web 2.0 affordances, such as MOOCs and telecollaboration) have been used to connect classes, to foster intercultural learning and democratize international education (Guth, 2016) – which traditionally served a small number of students (De Wit, 2016). Thus, HEIs had to shift their focus to internationalization through curricula and learning outcomes, instead of physical mobility – which was heavily impacted by the pandemic, according to the International Association of Universities (IAU) Global Survey 2020.

As discussed by Stallivieri (2020), referring to the Brazilian context, these virtual exchange programs require high-quality technology, facilitated by professionals who need specific skills, because some students (in the internationalization process) need to communicate with people in other parts of the world who (in some cases) speak other languages, using tools that (sometimes) try to replicate in-class interactions (Altbach & De Wit, 2020b).

In the case of Brazil, due to socio-economic gaps, different social and economic statuses became more evident during the pandemic, increasing the education divide among Brazilians – i.e., students who can afford a traditional international experience in the form of physical academic mobility, and those who cannot afford to travel or who cannot engage in virtual exchanges for lack of access to technologies or languages, two gaps also highlighted by Stallivieri (2020) referring to the digital gap and the linguistic gap.

The digital gap includes access and use of digital resources, since many Brazilians lack access, knowledge, and/or financial conditions to afford Internet services and equipment. The linguistic gap in Brazil refers to the lack of proficiency in English (mainly), as can be seen in the results of a survey<sup>15</sup> in

2012, which showed that only 5% of Brazilians know how to communicate in English effectively. Data from a piece of news<sup>16</sup> in 2019 confirm this percentage. In addition, data currently available at the website of the EF English Proficiency Index (EF-EPI)<sup>17</sup> shows that Brazil is categorized as a low proficiency country, currently placed 53<sup>rd</sup> (among 100 countries) in that Index.

Therefore, and still according to Stallivieri (2020), actions must be taken to overcome these gaps, to promote a more balanced (with equal participation of academic partners) and sustainable (a long-term activity) virtual environment for education. By using the expression ‘more balanced’, Stallivieri (2020) advocates for the development of two-way activities (in which participants have the same opportunities to interact) between participants, that is, participants engage actively in the process, avoiding the donor-recipient style of knowledge exchange (non-autonomous). A “more sustainable” environment could occur if the people involved in education moved beyond single-session virtual encounters to promote a more continuous program for education (Stallivieri, 2020; Finardi & Guimarães, 2020).

The simple access to technology does not guarantee quality in online education (Zinger, Krishnan & Warschauer, 2018) for new digital tools and platforms have to be used to create learning environments that are conducive of learning – it is not a matter of changing the medium (only) to incorporate digital resources. Therefore, the access to technology by itself does not provide a holistic integration with education, being necessary technical support, teacher training, and skills to act cognitively, to make effective use of technology (Warschauer, 2004). According to Warschauer (2004), limited access to technology means that users only have access to equipment, lacking the necessary knowledge/skills to operate such equipment; broad access to technology means that users have both equipment and knowledge to operate technologies.

Finally, the growing use of technologies in everyday educational practices can result in changes or incorporations of new social practices, such as frequent interactions in virtual classrooms, using various communication platforms. Thus, technology can positively impact education if integrated with the use of digital resources. Technology alone does not cause changes in users’ lives and, according to Barton and Lee (2013), the individual must know how to use digital resources to achieve different purposes in different contexts. In the following subsection, we discuss an important concept for this study – internationalization of HE.

## *2.2 Internationalization of higher education*

New possibilities have emerged in the increasing migration of face-to-face instruction to digital environments. Digital resources can enable students and teachers to connect beyond local or national boundaries, with more options for interaction with other languages, cultures, and contexts. Institutions that had little international interaction before the Covid-19 outbreak now seek new partnerships and opportunities in this new higher education scenario, expanded with the support of technologies and digital resources (Finardi & Guimarães, 2020).

Furthermore, Brazilian higher education has been experiencing important developments in regards to internationalization (Finardi & Guimarães, 2020; Guimarães et. al, 2020), propelled by programs such as Science without Borders (SwB)<sup>18</sup>, Languages without Borders (LwB)<sup>19</sup> and Capes Program for Institutional Internationalization (Capes PrInt)<sup>20</sup>. SwB sent more than 100,000 Brazilian undergraduate students abroad (mainly from STEM<sup>21</sup> fields) to develop their academic skills in other countries. LwB was initially designed to support SwB applicants concerning the development of language proficiency (but later became an internationalization program by itself), with online courses, face-to-face classes and proficiency tests. Capes PrInt was a recent redesign of SwB, this time focused on graduate programs, and limited to 36 institutions only – leaving 90% of Brazilian institutions out of funding for internationalization (Stallivieri, 2020).

Internationalization is broadly defined as the intentional process of integrating an international dimension to HEIs, in order to improve the quality of education/research and provide a meaningful contribution to society (De Wit et al., 2015). It is featured in the agendas of HEIs and national/local strategic plans, involving administrators, faculty, students and academic service/support units, in a comprehensive process (Hudzik, 2011) which affects institutions as a whole. Internationalization encompasses various activities, but it is still (traditionally) associated with student mobility mainly (De Wit, 2011; Knight, 2011).

More recent studies (e.g., Knight & De Wit, 2018; De Wit, 2020) indicate that this view of internationalization as “mobility only” has to be overcome, with the promotion of other approaches, such as Internationalization at Home – IaH (Beelen & Jones, 2015), defined as the purposeful integration of international/intercultural dimensions into the formal/informal curriculum for all students within domestic learning environments. Internationalization of Curriculum (IoC) is also a key concept for HEIs which wish to internationalize. Leask (2015) defines IoC as incorporating an international/intercultural dimension into the preparation, delivery, and outcomes of a study program.

The Covid-19 pandemic has had an impact on international student mobility at 89% of HEIs, according to the International Association of Universities (IAU) Global Survey 2020. Thus, alternative approaches for internationalization, such as Internationalization at Home (IaH), as discussed by Leal (2020), and Internationalization of Curriculum (IoC), had to be articulated.

Some HE institutions adopted IaH and IoC approaches as a way to face the recent disruptions caused by the pandemic, replacing physical academic mobility with the use of digital resources to promote virtual exchanges/COIL between institutions located in different countries that often have different languages (e.g., Finardi & Guimarães, 2020; Moravec, 2020). Thus, digital resources were used in VE/COIL programs, within IaH and IoC approaches, as an alternative to traditional views and practices of internationalization that were associated with physical mobility only/mostly. In the following subsection, we discuss COIL as a relevant approach for internationalization.

### *2.3 Collaborative Online International Learning (COIL)*

Collaborative Online International Learning (COIL) was first developed at the State University of New York (SUNY)<sup>22</sup> as an approach to allow the academic interaction between scholars located in different parts of the world, with the support of digital resources (such as MOOCs) to promote internationalization. Therefore, COIL can be a means to connect virtually two or more institutions, to foster interactions between cultures, students and tutors (Ceo-DiFrancesco & Bender-Slack, 2016). We chose the term “COIL” instead of “VE” because it is a terminology widely adopted in the field of studies related to the incorporation of digital resources and language use in higher education (e.g., Rubin, 2016; Lewis & O’Dowd, 2016).

According to Rubin and Guth (2015), COIL is neither a piece of technology nor an online platform, but rather a teaching/learning approach that HEIs can adapt to a wide variety of courses, disciplines and objectives, to develop intercultural awareness, in shared multicultural learning environments. COIL combines the four essential dimensions of mobility: (1) it is a collaborative exercise of teachers and students; (2) it makes use of online technology and interaction; (3) it has potential international dimensions; (4) and it is integrated into the learning process (De Wit, 2013).

For Wimpenny and Orsini-Jones (2020), COIL offers students the opportunity to develop a range of attributes, qualities, skills or capabilities that enable them to meet the challenges of living/working in contemporary societies, as citizens and professionals. COIL has the potential to deepen the understanding of the self, course content, culture and how participants perceive themselves and others (Rubin, 2016). Moreover, according to Finardi, Hildeblando and Guimarães (2020), COIL is a space for encountering different cultures and languages, and contributes to the visibility/appreciation of diversity and minorities.

In sum, when considering the role of education in preparing students for an increasingly interconnected and diverse world, international/intercultural learning and online communication provide students with different opportunities to learn how to form and maintain long lasting relationships, and work collaboratively with people from different cultural backgrounds.

Several authors (e.g., Rubin & Guth, 2015; Haug, 2017; Hildeblando Júnior & Finardi, 2018; Hildeblando Júnior, 2019; Guimarães et al., 2019) have discussed the relevance of COIL as an alternative to promote Internationalization at Home (IaH), once a very small portion of faculty, staff and students is served by opportunities for physical mobility – they may not get the chance to have exchange experiences across borders (Rubin, 2016). In times of Covid-19, when international mobility is affected by strict border controls (Finardi & Guimarães, 2020), IaH has acquired an increasingly relevant role in the development of international activities in domestic/local environments. Therefore, the pandemic emphasized the potential of COIL as a collaborative learning space in a virtual environment (Hildeblando Júnior & Finardi, 2020). In the following subsection,

we discuss MOOCs as an interesting approach which can also be used in internationalization.

#### *2.4 Massive Open Online Courses (MOOCs)*

Massive Open Online Courses (MOOCs) are a form of online learning that uses digital resources to offer education on a massive/international scale, in most cases for free (or at a low cost). Thus, they are considered an “evolution” of online learning, opening educational resources for non-traditional audiences worldwide (Castaño-Garrido et. al, 2015).

MOOCs are also considered one of the most promising educational technologies (Morris, 2013), which concentrate several of the ideas discussed here, such as the adoption of digital resources for language use in HE, within internationalization contexts. MOOCs resulted from the branding movement of some universities in Europe and the USA to attract the attention of international students, as discussed by De Wit (2011). MOOCs assume active involvement of students, who self-organize their participation according to their learning objectives, previous knowledge, and shared interests. For this reason, they have little structure, when compared to traditional online courses, thus stimulating a redefinition of the concept of the course itself, and the relationship between teachers/tutors and students.

According to Cha and So (2020), MOOCs provide a variety of informal and formal learning opportunities, and follow a spectrum of task-, network-, and content-based approaches. MOOCs are large-scale courses supported by digital and network technologies, which assume concepts of self-organization and openness. In general, they do not limit the number of participants, nor restrict participation or demand prerequisites. The dynamics of MOOCs provide freedom for participants to organize themselves regarding learning objectives, previous knowledge and interests. Participants can also acquire new knowledge, expand existing knowledge or explore a specific field of interest (Morris, 2014).

For Rituerto (2014), MOOCs present some features, which traditional online courses do not have such as: (a) an arrangement of work teams that participate in the various stages of creation, development, instructional design and execution of the course; (b) the origin and the educational level of the students – because, in the case of MOOCs, space is global/universal, whereas in traditional approaches the space is geographically limited to local environments; (c) the learner’s attention is scarce in the MOOC courses; and (d) the evaluation system is different. This is because personal/individual attention cannot be provided in MOOC courses – therefore, learners have to work on self-evaluation or peer-evaluation activities.

MOOCs were created by George Siemens and Stephen Downes in 2008, to teach the course “Connectivism and Connective Knowledge” that underscored the theory of learning named “connectivism” at the University of Manitoba, Canada. These open courses gained popularity in HEIs when “top universities” worldwide increased their focus on the use of digital resources for offering mixed classes

(in-person + online) in 2011. The idea of “top universities” emerged as a strategy, based on international academic rankings (such as the QS World University Rankings), to increase the profile and visibility of HEIs at the international level, to attract more students and increase their revenue, as discussed by De Wit (2011) and Knight (2011).

MOOCs have changed the role of educational institutions, teachers and students, as well as the teaching/learning process, by introducing new strategies, platforms, opportunities and ways of interaction between institutions, teachers and students, which were not available previously. In addition, MOOCs have also become part of IaH, due to their potential for using additional languages in higher education, as discussed by Lima, Bastos and Varvakis (2020) and Guimarães et al. (2019). MOOCs have the potential of shaping accessibility, autonomy, participation and the nature of higher education, by promoting collaboration and shared responsibilities, for instance. HEIs have also used MOOCs as a means to foster their international visibility and reputation (Gaebel et al., 2014).

According to Finardi and Tyler (2015), most MOOCs are offered in English, despite the fact that a great part of MOOC users are non-native speakers of English (Davis, 2020). The use of English medium Instruction (EMI) combined with MOOCs could be seen as a strategy of HEIs to reach a larger audience – by offering courses beyond the linguistic and physical limitations of HEIs. Therefore, Finardi (2015) suggests MOOCs as part of blended approaches (which mix in-person and online activities) to teach English in Content and Language Integrated Learning (CLIL) approaches. Though Finardi (2015) and Finardi et al. (2016) addressed the use of MOOCs in CLIL four years before the pandemic, MOOCs now seem to become an interesting alternative to teach content and language, through online activities.

We conclude this subsection with a reminder that universities and platforms – such as Coursera, Udemy, edX and FutureLearn – have provided several courses on various topics, facilitated by professionals specialized in the study area/field (Finardi et al., 2016). For Finardi and Tyler (2015), MOOC courses provide access to quality education and more flexible learning opportunities to a wide range of cultures and socio-economic backgrounds, through online technologies, as long as students have access to adequate equipment and Internet connection. In the following subsection, we discuss the increasing role of English in academia.

### *2.5 English in academic settings*

Languages are central to education because, among other aspects, they are used as medium of instruction, they can be used to construct/negotiate identities and they can also be used to show group membership in educational environments, for instance (Spolsky, 2004). As such, there have been various discussions around which languages should be used in multiple levels of education, from elementary to higher education (e.g., Baumvol & Sarmiento, 2016; Passoni, 2019; Gimenez, 2019). English has acquired the role of the dominant language in various fields of

society, especially in higher education settings (e.g., Jordão, 2016; Brutt-Griffler, 2017; Schmidt-Unterberger, 2018; Liu, 2019).

The increasing use of EAL in international universities<sup>23</sup> has been discussed by Jenkins (2014), focusing on the use of English as an “academic lingua franca” to produce and share knowledge in higher education. Jenkins (2015) also discusses the role of English in multilingual higher education contexts, and how this language “competes” against local and other foreign languages for being used in teaching, research and outreach, in such a way that internationalization has been equated with the process of “Anglicization” of higher education (Ljosland, 2011; Solovova, Santos & Verissimo, 2018).

The impact of English in higher education can be seen in the area of academic publications. According to Finardi and França (2016), the universities with most publications are the ones located either in English-speaking countries (e.g., the United States, India, the United Kingdom, Canada), or countries which have adopted English as a medium of instruction (e.g., Germany, Japan, France, Italy, South Korea).

Despite being placed 13<sup>th</sup> in the world ranking of academic publications, Brazil does not have a large academic impact measured in terms of number of citations, because most articles published by Brazilian researchers are written in Portuguese (Finardi & França, 2016; Finardi, Santos & Guimarães, 2016), a language which is not as widely used as English, Spanish or French (Janson, 2011; Finardi & França, 2016). Therefore, the circulation of Brazilian publications occurs mainly at the national level (Finardi & França, 2016), and publications face serious challenges to reach larger international audiences. In the following subsection, we discuss the use of English as medium of instruction in HE.

### *2.6 English Medium Instruction (EMI)*

Another field in which English has been growing recently is English as Medium of Instruction (EMI). EMI has been studied by various authors worldwide, in multiple aspects: EMI in university settings (Dafouz & Smit, 2014); English and EMI challenges and opportunities in Brazil (Martinez, 2016; Finardi, 2016); EMI and internationalization (Gimenez & Passoni, 2016); EMI and language ideologies and policies (Gimenez, 2019; Finardi & Guimarães, 2021); EMI and teacher education (Sifakis, 2019); EMI and internationalization (Moore & Finardi, 2019); first/second languages and EMI (Macaro, Tian & Chu, 2020); EMI comparative studies (Guimarães & Kremer, 2020); and others.

Taken together, findings of these studies indicate: (a) EMI has recently acquired a growing relevance for the delivery of multiple contents in university settings; (b) EMI presents several challenges for its planning, implementation and assessment, including the preparation of teachers and the need for incentives for both faculty and students to engage in EMI courses, especially when their level of English proficiency is low; (c) EMI has an important role for the internationalization of higher education, because it can be used to prepare

students and researchers for international experiences; (d) language policies can be used to promote EMI over instruction in other languages, resulting in serious problems for teachers of languages other than English, such as unemployment; (e) teacher education for EMI must be carefully planned, so that teachers can have the necessary skills to teach both content and language and at no expense of each other.

Besides, a relevant increase in the offer of EMI courses can be seen in the ‘Guide to English as a Medium of Instruction in Brazilian Higher Education Institutions 2018-2019’<sup>24</sup>, jointly published by the British Council and the Brazilian Association for International Education (FAUBAI). A comparison between the data shown in the 2016 version of this same report and the 2018-2019 version indicates a significant increase (29%) in the number of EMI courses offered in Brazilian institutions, particularly by public institutions as reported by Guimarães and Kremer (2020). In the following section, we discuss the methodology adopted in the present study.

### 3. Methodology

This study used bibliographic research techniques and a literature review to discuss some possibilities of adopting digital resources for using English as an additional language (EAL) in higher education contexts, more specifically in a Brazilian university, within the perspective of its process of internationalization. To discuss these possibilities, we look at examples of activities that integrate digital resources and language use in that university.

For data collection at the university chosen for this study, the authors checked the university website to find information, news, legislation, and reports on adopting digital resources in language use. Since the authors are familiar with the academic and administrative contexts in that university, part of the information was collected through participation in various virtual meetings and projects, which provided insights for discussions in this article. The literature review was conducted with the support of various academic databases, such as “Portal de Periódicos da Capes”, “Google Scholar”, and “Education Resources Information Center” (ERIC).

#### 3.1 Context

Concerning the specific context studied, we investigated the Federal University of Espírito Santo (UFES)<sup>25</sup>, a public HE institution. UFES, as part of the national network of public HEIs, shares many similarities with other Brazilian universities, so that the results from this study could be expanded to other institutions in Brazil. UFES is a medium-sized university (in Brazilian standards), with more than 20,000 undergraduate students and around 4,000 graduate students. It has 1,700 faculty members and almost 2,000 members of the administrative staff. The authors of this study are also familiar with UFES, both at

the academic and administrative levels, since it is the institution where they study and work. In the following section, we present the results found in this study.

#### 4. Results

UFES has not been fully following some current trends in internationalization in Brazil, mainly concerning the increase in the offer of courses/programs in English, as can be seen in the Guide to EMI in Brazilian HEIs 2018-2019, mentioned previously. Thus, more collaborative projects are important to change this scenario and promote the use of EAL in HE, as the ones investigated in the present study.

As discussed by Green et al. (2012), motivations for using English in higher education include improved employment/mobility prospects (especially for students who can afford instruction in English) and the need for graduates who can speak English in international exchanges (due to global pressures on local labor markets). However, we should not forget the challenges related to the use of English at HEIs worldwide (e.g., Moore & Finardi, 2019; Macaro, Tian & Chu, 2020), such as the shortage of lecturers who are proficient in English (Kremer & Valcke, 2014), the costs involved and local resistance to using English (Leffa, 2013) – issues that are also present at UFES.

Considering that only a small percentage of Brazilians are proficient in English (as previously mentioned in this study), lecturers at UFES also find it challenging to teach in English<sup>26</sup>, mainly because of the few opportunities offered at UFES to develop their proficiency in English. Due to time, financial and personnel constraints, lecturers are overloaded with teaching, research and outreach activities – as also discussed by Martinez (2016). Also, lecturers do not receive incentives to teach their contents in English, resulting in an environment of individual initiatives (without institutional support) to teach in English, instead of a place where lecturers receive institutional support to develop their skills, as a group of professionals focused on approaches such as EMI or COIL, for instance (e.g., Martinez, 2016).

Lecturers also face local resistance concerning the use of English in academia<sup>27</sup>, for ideological reasons, as some teachers may see EMI as “linguistic imperialism” (as discussed by Leffa, 2013). In order to deal with that, there could be discussions on the use of EAL in HE, so that different people may negotiate and understand language use and language roles in the academic environment.

UFES has recently promoted a COIL experience in partnership with the Alberto Hurtado University [AHU, Chile] (Hildeblando Júnior, 2019), in a course for training pre-service English teachers at both universities – English was the “lingua franca” chosen by the participants. Results from this experience, discussed by Hildeblando Júnior (2019) and Finardi, Hildeblando Júnior and Guimarães (2020), show that digital resources can promote language use, when they connect people who cannot participate in physical mobility because of (mainly) financial limitations. Digital resources also allowed for intercultural contact and learning,

when participants had to switch between Portuguese, Spanish and English, in the multiple stages of the interaction in the COIL experience.

This COIL project (UFES-AHU) was carried out mainly in English. However, since the participants had either Portuguese or Spanish as their first language (L1), they frequently switched languages, depending on the project's activity. The project aimed to promote an exchange of teaching experiences and compare teaching styles between students who were pre-service English teachers from UFES and AHU. Besides the students, the project also included the participation of graduate students as tutors, and teacher trainers from UFES (Prof. Kyria Finardi) and AHU (Prof. Mary Jane Abrahams) as supervisors.

During the COIL interactions between UFES and AHU, participants had to negotiate the course syllabus, the literature to be discussed during the semester and their presentations. This activity required them to switch languages to collaborate with local colleagues and colleagues in the partner university. For example, when discussing local topics, such as the “Idiomas sem Fronteiras” and “Inglés abre Puertas” programs, they usually switched from English to their L1. Because some of them were proficient in Portuguese or Spanish (only), but all of them were proficient in English, that language was chosen for the interactions in the COIL project.

Besides, UFES has recently collaborated with Coventry University (CU, in the UK) and University of Colombo (UC, in Sri Lanka) on a COIL project<sup>28</sup>, to foster a more inclusive internationalization process in the form of IaH, and to develop participants' digital literacy and intercultural awareness. The project aims to promote the adoption of a holistic approach for developing internationalization through COIL, while also providing the students involved (pre-service English teachers and graduate English-teaching students) with the opportunity to engage with a global English language teaching (ELT) community, using a MOOC called “Understanding Language: Learning and Teaching” available at the FutureLearn platform, managed by the University of Southampton and the British Council.

In addition, UFES has a Language Center (LC) that offers language teaching (at a low cost) for both its internal academic community (students, faculty, and staff) and society at large – serving around 7,000 language learners every year (some scholarships are offered). The LC is an outreach program and offers courses in six foreign languages (English, German, French, Spanish, Italian and Portuguese as a Foreign Language - PFL) at a low cost, and provides scholarships for students from public schools – reflecting its inclusive view concerning language learning, by offering opportunities to low-income students who cannot afford language courses. English is the language with most learners (almost 60% of all students), and LC classes have also moved to online environments, due to the pandemic.

Impressions<sup>29</sup> from both LC teachers and students show that, despite the challenges related to online teaching/learning, technologies had a key role in the continuity of the pedagogical processes between 2020-2021, since in-person classes were suspended and students could continue their language courses with the support of digital resources. These impressions may suggest that online-only

language classes (or maybe mixed classes, that is, part of the classes will be taught in-person and part online) at UFES may continue after the end of the pandemic, according to information provided by members of the LC, in recent virtual meetings. The key findings in the literature review and the scenario at UFES are briefly described in Table 1 (below).

**Table 1.** Key findings in the literature review and evidence at UFES

Findings in the literature review	Evidence observed at UFES
The use of digital resources in education and language use is not new, although there has been a rapid adoption of such resources in education in general and in language education recently, mainly because of the restrictions to in-person activities/classes, resulting from the pandemic.	Although UFES has a distance learning service (SEAD, established in 2001), it traditionally served a small part of its students; however, the pandemic accelerated the full adoption of digital resources in education through ERE, for almost all undergraduate/graduate students and language learners at UFES; digital resources for language use were also adopted at the Language Center.
The internationalization of higher education was focused primarily on physical academic mobility before the pandemic and due to the disruptions caused by the pandemic, alternatives for virtual exchange had to be found, including digital resources to enable virtual exchange.	UFES followed some internationalization trends in Brazil before the pandemic, focusing on the mobility of students abroad; after the pandemic, UFES adopted ERE for local teaching and occasionally promoted virtual courses offered by partner universities abroad (e.g., summer courses); some members of UFES also participated in COIL projects.
Many HEIs worldwide have been adopting approaches and resources such as EMI, COIL and MOOCs, to attract international students/scholars, increase revenue, participate in academic networks online, develop an international profile and increase their visibility in the international scenario of higher education.	UFES has promoted a few short-term courses in EMI, supported by the British Council – these courses are currently suspended, due to lack of funding; UFES had some COIL experiences (with AHU, Coventry and Colombo), as reported in this study; to the best of our knowledge, UFES has not yet offered MOOC courses to audiences abroad, but some of its members attend MOOCs promoted by universities abroad, since many of them are cost-free; these activities suggest a trend at UFES to participate in academic networks online and increase its visibility in the international scenario of higher education.
COIL emerged as an interesting alternative to promote IaH and virtual exchange, since a small number of students have access to academic mobility programs abroad.	At UFES, a very small number of students had access to mobility abroad, as can be seen in the public calls for mobility of its International Office; however, recent COIL projects at UFES seem to be an interesting alternative to promote IaH and virtual exchanges, as reported in this study.
MOOCs allowed for the expansion of academic audiences.	As mentioned previously, to the best of our knowledge, UFES has not yet offered a MOOC, but it has participated in projects which involve the use of MOOCs, such as the ones reported in this study. Members of UFES can participate in MOOCs offered by partner universities, as can be seen on the website of its International Office.
There is a close connection between the use of languages and internationalization, since additional languages (and EAL more specifically) can be used as a medium of instruction and academic language, as can be seen in the high number of EMI courses and international publications in English, frequently replacing local languages in a process of “Anglicization” of HE.	Although there is an increasing trend to offer EMI courses in countries where English is not the first language, very few courses are offered in English at UFES, as can be seen in the EMI Guide by FAUBAI and British Council; some issues, such as the lack of institutional support and funding (also absent at UFES), were reported by Guimarães and Kremer (2020).

These three topics (the use of digital resources; the use of English in HE; the internationalization process) are very much interconnected because internationalization requires the use of additional languages (especially English), and this use can be supported and promoted by digital resources to reach larger audiences.

At UFES, the use of additional languages (such as EAL) for internationalization, supported by digital resources, is a topic to be expanded/developed, since the authors of this study found few examples (AHU, Coventry and Colombo) of international collaboration with the adoption of digital resources and EAL at UFES.

**Source:** elaborated by the authors.

In the following section, we present a discussion of results, contrasting the literature reviewed and evidence found at UFES concerning the topic of this study.

## 5. Discussion

The literature review (e.g., Lewis & O'Dowd, 2016; O'Dowd, 2018) indicates various possibilities/alternatives for adopting digital resources in the use of EAL – a combination of COIL, MOOCs and EMI can be an interesting alternative for HEIs which are focused in the development of their internationalization strategies, supported by the use of technologies and languages (in general) and English (in particular). These alternatives represent efforts from HEIs to link digital resources, language use, ERE and internationalization, to face the current and future challenges in the use of languages in HE (in general) and at UFES (in particular).

In relation to the adoption of digital resources for language use, we can see a sequence of changes in technology, as discussed by Finardi and Porcino (2014). In the current context of ERE, language use could be consolidated through different resources and approaches, such as the ones reviewed in this study (COIL and MOOCs). The current scenario also offers different possibilities of methodologies for language use, such as “Cultura” and “Teletandem” (O'Dowd, 2018), that allow (among other factors) for making language use more accessible for students. In the case of UFES, existing COIL projects could be expanded, and new ones could be established, for instance.

Moreover, for Lourdusamy and Czarzasta (2021), digital resources can give flexibility to teachers and students, in the sense of how a course is taught: (a) they support students to adapt to new ways of learning (accommodate different learning styles and needs); (b) they are student-centered (the focus is more on the learner than on the teacher); (c) they give students greater accessibility to other resources (students access materials that are updated and customized at their own pace); (d) they can help to achieve some motivational aspects (e.g., learning can become more interesting and interactive); (e) multimedia resources can make the learning process more dynamic. With these important and useful features, digital resources could support internationalization at UFES.

Embracing digital resources through the development of digital literacy<sup>30</sup> is essential to participate in virtual exchange (VE), since VE is an important site of learning of all sorts, especially languages (Barton & Lee, 2013). Thus, digital resources and English have played an increasingly relevant role in international

engagement and global cooperation, since they shifted the focus away from language learning itself to developing language education and intercultural/communication skills, as stated by Jin (2020). In the case of UFES, such resources can be used to promote EAL for internationalization.

The Internet and digital resources can provide teachers and learners with opportunities to engage in authentic contexts of communicative language use, offered by virtual exchange. Therefore, the digital resources (and other Web 2.0 affordances, such as MOOCs and telecollaboration) have been used to connect classes, to foster intercultural learning and to democratize international education (Guth, 2016) – which traditionally served a small number of students (De Wit, 2016). Thus, HEIs had to shift their focus to internationalization through curricula and learning outcomes, instead of physical mobility – which was heavily impacted by the pandemic, according to the International Association of Universities (IAU) Global Survey 2020. In the case of UFES, these resources can be used in IaH activities and VE, due to current restrictions to physical mobility.

Virtual internationalization<sup>31</sup> through COIL and EMI, for instance, is a means to provide students with online educational settings, opportunities, and online international experiences, to develop intercultural awareness<sup>32</sup> at the university level (Rubin, 2016). Students can learn and reflect on the outcomes from collaborative interactions through regular communication with distant peers from other cultures/languages. The participants from the COIL project between UFES and AHU explored the online collaborative space and they (re) negotiated language meanings and expanded their communication strategies. This COIL experience could be expanded to other fields of knowledge at UFES.

At the institutional level, the COIL projects developed by UFES in partnership with AUH, Coventry University and the University of Colombo have supported UFES to internationalize part of its curricula by providing opportunities of virtual mobility for some professors, staff and students; by offering the opportunity and making it necessary for students and teachers to work closely together; and by drawing attention to the specific national and cultural approach to a subject, as well as to the way it is taught and learnt.

Moreover, these COIL projects have also helped to develop proficiency in additional languages (and to foster multilingualism, as in the case of the collaboration with AUH), since communicating effectively in foreign languages is one of the “key competencies for lifelong learning” according to the European Commission (2018). Besides, the contemporary interconnected world demands staff and students to be more interculturally competent and sensitive.

Therefore, there could be an integration of people and knowledge, interconnected by the diversity of ideas/experiences, in which digital resources are used to enhance the integration process, to deepen the students’ worldview, through contacts with people from other cultural backgrounds (as in the collaboration between UFES, Coventry University and the University of Colombo, with students from various countries). The scenario discussed here highlights the challenge posed by the current labor market to students (e.g., Orsini-Jones & Lee,

2018), who are encouraged to acquire skills not developed by formal/traditional education, such as intercultural sensitivity. The acquisition of such skills could be promoted at UFES with the support of digital resources and EAL.

Regarding the challenges imposed by digital resources, some teachers need to be willing to leave their “comfort zone” to engage in virtual exchanges (e.g., Altbach & De Wit, 2020b). This is because the internationalization of HE involves a process of rethinking the classroom and reflecting on curriculum flexibility. Therefore, teachers and academic staff should have the support of institutions (through COIL, for instance), since many international collaboration projects come (mainly) from individual initiatives, as could be seen at UFES<sup>33</sup> (and other Brazilian institutions).

The lack of adequate resources demands new alternatives for the teaching and learning process (as mentioned previously, according to Altbach & De Wit, 2020b). Therefore, leaders, managers, politicians, social researchers and educators should use digital resources to support language use for dissemination of knowledge and socialization of information – for instance, MOOCs can be used to deliver education to regions where such education would not occur (due to various limitations) without the support of digital resources. In the context of UFES, MOOCs could be developed to disseminate (worldwide) the specific knowledge produced at the local level, for instance.

At UFES, significant changes in the teaching/learning paradigm have not yet happened at the institutional level (e.g., Amorim & Finardi, 2017). In other words, if the teaching practices rely only on laws and regulations to be directed towards an international focus, it will take some time for changes to take place – for example, some teachers only engaged in internationalization actions because of external pressures and evaluation, which affect local activities (Garson, 2016). In order to change this scenario, some teachers at UFES, motivated by the use of digital resources and supported by the local administration, could transform their practices to assume part of the responsibility of leading a change at the local level.

Besides, teachers could see OIE as important for student development (e.g., Lewis & O’Dowd, 2016). Therefore, meaningful exchanges (e.g., Panajoti, 2019; Rubin, 2016), those which effectively change people’s practices, should become a collective effort for the academic development of both teachers and students. When planning international projects, HEIs should also consider that students could acquire skills beyond the labor market requirements (such as intercultural communication), including a global view, and the ability to solve local problems with an international view – for instance, teachers and students at UFES could discuss local environmental problems that require a comprehensive/global perspective to be solved.

Based on the ideas outlined so far, education committed to its social function (related to the development of values, skills and personality, to live in the social world) should be linked to a process of global citizenship (e.g., Lewis & O’Dowd, 2016), by all members of a democratic and interconnected society. In order to do so, access to information and technology is necessary for building social capital

(an intangible resource, such as social relations, to support participation/life in society – e.g., Bourdieu, 1991).

Such access requires some knowledge of English and digital literacy (Finardi, Prebianca & Momm, 2013) – since people should know how to operate technologies to have access to knowledge, which nowadays is mainly produced in English. Therefore, it is necessary to invest in the use of EAL and in new technologies, as strategies to democratize higher education, especially in countries with significant disparities (social, economic, etc.), such as Brazil.

When comparing the findings in the literature review with evidence found at UFES, we noticed that:

- a. The adoption of digital resources for language use in HE internationalization is an increasing trend at the global level. Such evidence could be found at UFES, with its participation in COIL projects (though the number of projects is low) and the offer of language courses online in its Language Center.
- b. There has been a shift in the focus of HE internationalization, from physical academic mobility programs (only) to virtual exchanges, mainly because of the pandemic; at UFES, we can see evidence of this ongoing shift in COIL projects (AHU, Coventry and Colombo) and virtual exchanges offered by partner universities abroad.
- c. The adoption of approaches such as EMI, COIL and MOOCs in HE has been used for various purposes at the global level; at UFES, the adoption of EMI has been limited, due to constraints in (local/national/global) funding; the participation in COIL projects, although limited, is reported in the present study.
- d. COIL is an alternative for IaH and virtual exchange. UFES has participation, although limited to some teachers and students, in COIL projects that can bring internationalization closer to local contexts, as can be seen in the partnerships with AHU, Coventry and Colombo.
- e. MOOCs have allowed for the participation of wider academic audiences, but UFES currently does not offer MOOCs (to the best of our knowledge), although its teachers and students could participate in MOOCs offered by partner universities.
- f. EMI adoption in contexts of HE internationalization is an increasing trend. However, very few courses are offered in English at UFES, as shown in the EMI Guide by FAUBAI and British Council, mentioned previously. More investment and institutional support are necessary for developing EMI at UFES.

- g. HE internationalization, the adoption of digital resources and the use of EAL are interconnected topics. However, at UFES, we found few initiatives to integrate these elements – for example, the COIL projects mentioned previously.

After comparing the findings in the literature review with evidence found at UFES, we present the conclusion of this study in the following section.

## 6. Conclusion

This study focused on the discussion of possibilities/alternatives for a university in Brazil regarding the adoption of digital resources for using English as an additional language (EAL) in HE contexts affected by internationalization. By contrasting key findings in the literature review with evidence, context and activities of a Brazilian university, it was possible to discuss some alternatives, including COIL, MOOCs and EMI – and how these alternatives can be combined to promote a more balanced language use in HE internationalization.

For various reasons (for instance, a sense of community, a better environment for clear communication), many students and teachers still prefer education and language education on campus (e.g., Altbach & De Wit, 2020b). Unfortunately, for the moment, face-to-face classes are not possible in Brazil (and in many other countries), so blended education (distance learning + campus-based programs) could be an interesting alternative to deal with the impacts of the pandemic, as soon as some in-person activities can take place on campuses again.

It is important to remember that “just as MOOCs [...] a decade or so ago, did not produce the educational revolution that many predicted, today’s massive and hurried shift to distance education will not either” (Altbach & De Wit, 2020b, p. 3). Therefore, the possibilities discussed here should be seen with caution, that is, adapting these approaches to local needs and values, without forgetting national and global demands.

By proposing some alternatives (such as MOOCs and COIL) for the adoption of digital resources to promote the use of English in internationalization contexts, we aimed at influencing members of HEIs to develop more comprehensive environments for such language use. Therefore, social justice<sup>34</sup> could be achieved in times of uncertainties and gaps (language, digital literacy, etc.) in HE and its internationalization, mainly related to access to technologies and language skills.

The approaches discussed here can be useful alternatives to the challenging times we experience nowadays in HE internationalization, so that the educational process could reach a scope and quality that allows for dealing with exclusion (social, digital, epistemological, etc.) and with the sudden changes in HE that occurred recently, resulting from the pandemic. Therefore, different approaches (discussed here) for the adoption of digital resources, to use languages in internationalization contexts, could promote broader access to course contents offered to different user profiles and needs, thus being inclusive, in the sense of

reaching wider audiences, which previously could not participate in this learning/teaching process without the support of digital resources.

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### Notes

1. Digital resources refer to information available in electronic format, such as databases, books, journals, newspapers, magazines, archives, theses, conference papers, government papers, research reports, scripts, and monographs, that require access to the Internet and a computer, or any other electronic device, which can be used, in the case of this study, in the teaching process, in order to support learners. They are often made up of digital media, such as text, sound, video, and images (Deng, 2009; Rukwaro, 2015).
2. According to Richards and Rodgers (2014), 'approach' refers to the logical and philosophical bases (theories and principles) about the nature of language and language learning, reflected in the 'method', which is a set of procedures for teaching a language (theory is put into practice).
3. Defined as 'any educational process in which all or most of the teaching is conducted by someone removed in space and/or time from the learner, with the effect that all or most of the communication between teachers and learners is through an artificial medium, either electronic or print' (UNESCO, 2002, p. 22).
4. More information at: <https://iau-aiu.net/Covid-19-Higher-Education-challenges-and-responses>.
5. More information at: <https://www.insidehighered.com/news/2021/04/12/live-updates-latest-news-coronavirus-and-higher-education>.
6. More information at: <https://en.unesco.org/covid19/educationresponse/issuenotes>.
7. More information at: <https://www.gov.br/mec/pt-br/assuntos/noticias/mec-autoriza-aulas-on-line-no-ensino-superior-ate-dezembro>.
8. More information at: <http://faubai.org.br/pt-br/repositorio-covid/>.
9. More information at: [https://download.inep.gov.br/educacao\\_superior/censo\\_superior/documentos/2020/Notas\\_Estatisticas\\_Censo\\_da\\_Educacao\\_Superior\\_2019.pdf](https://download.inep.gov.br/educacao_superior/censo_superior/documentos/2020/Notas_Estatisticas_Censo_da_Educacao_Superior_2019.pdf)
10. More information at: <https://cetic.br/pt/tics/tic-covid-19/painel-covid-19/3-edicao/>.
11. More information at: <https://cetic.br/pt/tics/tic-covid-19/painel-covid-19/3-edicao/E12W/>.
12. This term is mentioned in the first paragraph of this section and defined in a footnote.
13. We call it an 'apparent new revolution in learning' because there have been previous attempts to integrate technologies into education, without the necessary structural changes, affecting HEIs unevenly, as discussed by Altbach and De Wit (2020b).

14. For the purpose of this study, we used the terms ‘COIL’ and ‘virtual exchange’ interchangeably based on O’Dowd (2018) and O’Dowd (2021).
15. More information at: <https://oglobo.globo.com/economia/emprego/brasileiros-nao-sabem-falar-ingles- apenas-5-dominam-idioma-6239142>.
16. More information at: <https://oglobo.globo.com/economia/emprego/voce-realmente-fala-bem-em-ingles-ou-so-embromation-23577552#:~:text=Dados%20do%20instituto%20cultural%20British,um%20ranking%20de%2070%20pa%C3%ADs>.
17. More information at: <https://www.ef.com/wwen/epi/>.
18. More information at: <http://www.cienciasemfronteiras.gov.br/web/csf/oprograma>.
19. More information at: <http://isf.mec.gov.br/>.
20. More information at: <https://www.gov.br/capes/pt-br/acesso-a-informacao/acoes-e-programas/bolsas/bolsas-e-auxilios-internacionais/informacoes-internacionais/programa-institucional-de-internacionalizacao-2013-capes-print>.
21. STEM: Science, Technology, Engineering and Mathematics.
22. More information at: <http://coil.suny.edu/>.
23. Knight (2014), in a report for the OECD, indicates that an “international university” has a diversity of international partnerships, international students and staff, and multiple collaborative activities.
24. More information at: <http://faubai.org.br/britishcouncilfaubaiguide2018.pdf>.
25. More information at: <http://www.ufes.br/ufes-em-n%C3%BAmeros>.
26. Preliminary information from an ongoing survey at UFES, developed by its International Office.
27. Preliminary information from an ongoing survey at UFES, developed by its International Office.
28. The project (supported by FAPES & Newton Fund/CONFAP - UK Academies 2019) is being coordinated by Prof. Kyria Finardi at UFES and by Prof. Marina Orsini-Jones at Coventry University. Author 2 of the present study is also participating in this project, as part of his ongoing doctoral research, supervised by Prof. Kyria Finardi.
29. Information obtained during virtual meetings between the Language Center and the International Office at UFES, in order to define language teaching activities for 2021.
30. The ability to use digital resources to find, create, and communicate information, that requires both cognitive and technological skills (Christison & Murray, 2020).
31. According to Lewis and O’Dowd (2016), it is the use of OIE (online intercultural exchange) to bring together internationally dispersed classes, to carry out academic cooperation for mutual benefit.
32. The ability to understand similarities and differences between one’s own culture and others’ (Cuccurullo & Cinganotto, 2020).
33. More information at: <https://internacional.ufes.br/pt-br/ativos>
34. Social justice can be understood as intentional actions to meet the needs of disadvantaged groups, and deploy changes based on an awareness of privilege, social inequality, and oppressive systems (Brown & Oliveira, 2019).

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