

# Moving minds: Opportunities and challenges for virtual student mobility in a post-pandemic world



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#### EDITORIAL TEAM

**Authors:** Emma Sabzalieva, Takudzwa Mutize and Clarisa Yerovi

**Copyeditor:** Annette Insanally

**Graphic design,  
layout and cover:** Cesar Vercher

**Communications:** Yara Bastidas, Edward Betancourt, Claudia Delgado Barrios,  
Sara Maneiro, Neus Pasamonte

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# Foreword

UNESCO's initiatives in recent years attest to the importance that our organization attaches to academic mobility in general, and to student mobility in particular. We believe that, in addition to its innumerable benefits for the individual and for institutions, mobility is also a strategy for increased international academic cooperation, confidence in open science, the promotion of multilateralism, and a culture based on mutual understanding that fosters peace.

Decades ago, with the increasing rise in connectivity, virtual student mobility emerged as a possibility to be explored; today, the pandemic has served to heighten interest in this relatively new form of mobility. With this report, the UNESCO International Institute for Higher Education in Latin America and the Caribbean (UNESCO IESALC) wishes to contribute to the debate on the enormous possibilities offered by virtual mobility in the broader landscape of academic mobility.

Our perspective is that we must aspire to hybrid forms of mobility to make this activity more responsible, more sustainable, more optimized and, of course, with higher rates of participation and democratization.

The report also highlights some of our still unresolved concerns:

The first is whether virtual student mobility alone makes sense or whether the more desirable scenario is that of hybrid mobility. Undoubtedly, the experience of physical mobility is irreplaceable. Nevertheless, when we consider the opportunities for pedagogical innovation and experimentation made possible through virtual modalities, there is no reason to consider them inferior to traditional study abroad. The incorporation of virtual mobili-

ty into more advanced formulas for international academic cooperation would greatly improve the low percentages of students who now benefit from mobility and, while there is no data on this, presumably also improve the equity of these formulas by encouraging higher participation rates.

The second concern relates to the quality, real or perceived, of virtual mobility. As was the case until very recently with distance higher education, public opinion may not yet perceive that virtual mobility can, under certain circumstances, offer a high-quality experience in academic terms as well as in terms of socialization and cultural exchange. For this reason, it is very important that organizations such as UNESCO contribute to clarifying the panorama and help institutions and governments to establish quality criteria that will progressively become generalized.

It is along these lines that one should read this first report that our Institute has produced. It will undoubtedly be followed by others, delving deeper into the advantages, opportunities and risks linked to virtual mobility as part of a reimagination of internationalization. If mobility is important for higher education, it is also important that we do our utmost in this sphere to leave no student behind.



**Francesc Pedró**  
Director  
UNESCO IESALC

# Executive Summary

Student mobility has become a hallmark of higher education internationalization covering a series of processes that enables higher education to become more international, affecting not only students but faculty and staff, higher education institutions, and states around the world. Yet, the reliance on forms of physical student mobility involving border crossings and travel is proving unsustainable in the face of the global climate crisis and the ongoing Covid-19 pandemic. More than ever before, **now is the time to reimagine student mobility so that more students can benefit from an international experience** in ways that are not subject to changing global health or political restrictions, and that take the well-being of the planet into consideration.

This report lays the foundation for the future development of student mobility. The incredible creativity and innovation shown during the pandemic to ensure students can continue to benefit from cross-cultural exchange using ICT, needs to be harnessed and further developed so that student mobility becomes possible, not only physically but through virtual modalities.

Virtual student mobility, defined by UNESCO IESALC as a **form of mobility that uses information and communication technologies to facilitate cross-border and/or inter-institutional academic, cultural, and experiential exchanges and collaboration**, could increase access to international education, harnessing technology for good and reducing higher education's environmental footprint.

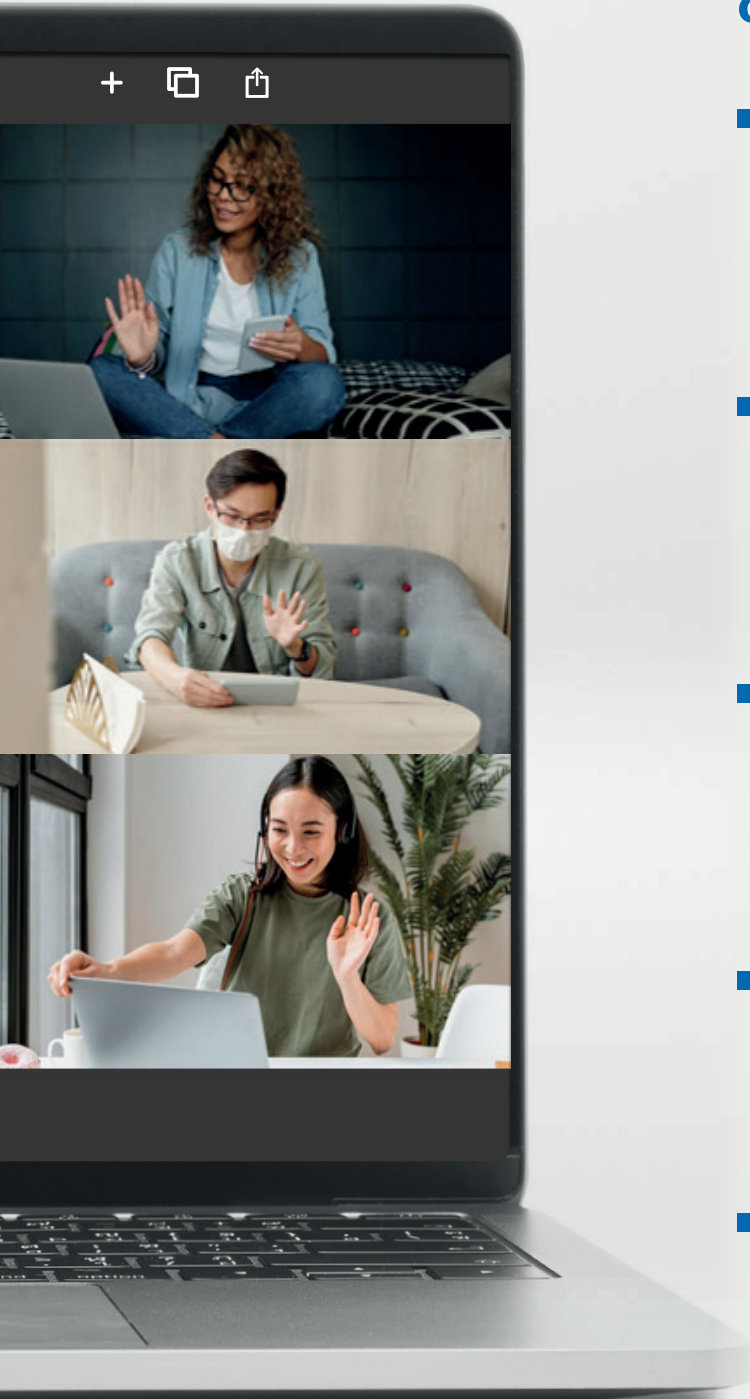
The report examines the possibilities that virtual student mobility presents, comparing it to other forms of student mobility, analyzing its advantages and limitations, and, crucially, providing

much-needed empirical evidence of virtual student mobility in practice. The report is informed by 14 case studies of virtual student mobility activities that have been implemented by 73 higher education institutions and higher education alliances across 38 countries in all world regions.

The case studies form the basis for a series of recommendations on how incorporating **virtual student mobility as an additional form of student mobility can play a critical role in reshaping higher education internationalization in the post-pandemic landscape**. This series of practical recommendations targets the different groups for whom virtual student mobility should be an important consideration: students, faculty, International Office staff, institutional leaders, governments and quality assurance agencies, and international organizations. In summary, it is recommended to:

- 1. Adopt a 'VSM mindset'** that is open to the immense possibilities VSM can add to international education. At the same time, being prepared to embrace the challenges and relative lack of information on VSM in order to improve and integrate it.
- 2. Keep equity at the center** of the design, delivery and purpose of VSM as a tool through which to democratize access to student mobility. Specific attention must be paid to enabling student participation and developing equitable international partnerships.
- 3. Provide dedicated funding** to develop VSM. This can be done on multiple levels including funding students (focusing on under-represented groups in student mobility), faculty/staff, and at institutional partnership level.
- 4. Accelerate digitalization** by providing better access to the internet, more devices and up-to-date software as well as supporting and embedding teaching and training in digital literacy.
- 5. Ensure credit transferability and official recognition** of VSM to facilitate inter-institutional partnerships and promote international mobility.

## Reimagining the future of student mobility



- 6 million students in higher education were internationally mobile in 2019, up from 2 million in 2000. However, this is just 2.6% of the total world student population – student mobility remains highly exclusive.
- The Covid-19 pandemic has placed enormous strains on international higher education, but it has also led to incredible creativity and innovation to ensure students can continue to benefit from cross-cultural exchange using ICT.
- Virtual student mobility (VSM) is now becoming more prevalent, offering exciting opportunities to increase access to international opportunities, harness technology for good, and reduce the environmental impact of physical student mobility.
- This study reports on 14 case studies of VSM activities implemented by 73 higher education institutions and higher education alliances across 38 countries in all world regions.
- Key success factors for VSM in higher education institutions include having an institutional champion, building on pre-existing partnerships and flexibility.
- 75% of students who experienced VSM said they would do it again if given the opportunity.

# 1 Introduction

## 1.1 Student mobility at the heart of higher education internationalization

Student mobility has become an increasingly central element of the internationalization of higher education (de Wit & Altbach, 2021; Knight, 2012). This form of academic mobility has typically been understood as students crossing borders in pursuit of an activity related to higher education. It commonly involves students spending a fixed period such as a semester (term) or a year studying at another higher education institution (HEI) as part of a degree program offered by the student's home HEI. Student mobility also refers to instances where students complete an entire degree program in another country, usually with the status of 'international student'. A third category of student mobility incorporates shorter non-credit bearing stays at HEIs in other countries, which complement the student's higher education. Examples include taking a language course, doing a lab research project at another HEI, or interning at a company or organization in another country.

For students, mobility offers opportunities to gain international experience and enhance soft skills and cross-cultural competences (Pedró, 2021b). For HEIs, working in international partnerships and enabling students to take up mobility opportunities extends the benefits of internationalization across the institution as the scope for knowledge transfer and creation expand and become more globally sensitive (Buckner et al., 2020). By generating and supporting student mobility, HEIs and states alike facilitate the cultivation of global citizens whose outlooks, networks, and capabilities are essential to development in today's

interconnected world (Bhandari & Blumenthal, 2011). The importance of student mobility is recognized at international level with the facilitation of global mobility and the associated frameworks to assure its quality and recognition having been taken up in the Global Convention of the Recognition of Qualifications concerning Higher Education. Five regional conventions, three of which have already entered into force, promote academic mobility and underline its importance for social and economic development.<sup>1</sup>

The number of internationally mobile students has grown dramatically and the destinations for mobility are diversifying as the value of student mobility has become progressively more recognized and better understood. The number of physically mobile students grew from 0.3 million in 1963 to just over 2 million in 2000 (Varghese, 2008). Since the turn of the century, that number has leapt by 200% to over 6 million in 2019.<sup>2</sup> This recent growth pattern has been experienced across all regions, as shown in *Figure 1*.

The most dramatic expansion of mobility opportunities has been from Central Asia and South and West Asia, with 450% and 527% increases in the number of outbound mobile students between 2000 and 2019 respectively. Students from Central and Eastern Europe, Sub-Saharan Africa, Latin America and the Caribbean, the Arab States, and East Asia and the Pacific also saw large increases of 101-241%.<sup>3</sup> Even in regions where the increase was less pronounced – 44% for the Small Island Developing States and 68% for North America and Western Europe – the numbers have nevertheless grown, painting an overall picture of significant change in the level of interest and take-up of student mobility opportunities.

1 <https://en.unesco.org/themes/higher-education/recognition-qualifications/conventions-recommendations>

2 2019 outbound student mobility for all countries that reported data was 6,063,665. Source: <http://data.uis.unesco.org/>

3 Increases by region: Central and Eastern Europe – 101%, Sub-Saharan Africa – 111%, Latin America and the Caribbean – 201%, Arab States – 205%, East Asia and the Pacific – 241%. Source: <http://data.uis.unesco.org/>



**Figure 1: Global growth in student mobility**

**TOTAL OUTBOUND INTERNATIONALLY MOBILE TERTIARY STUDENTS STUDYING ABROAD**

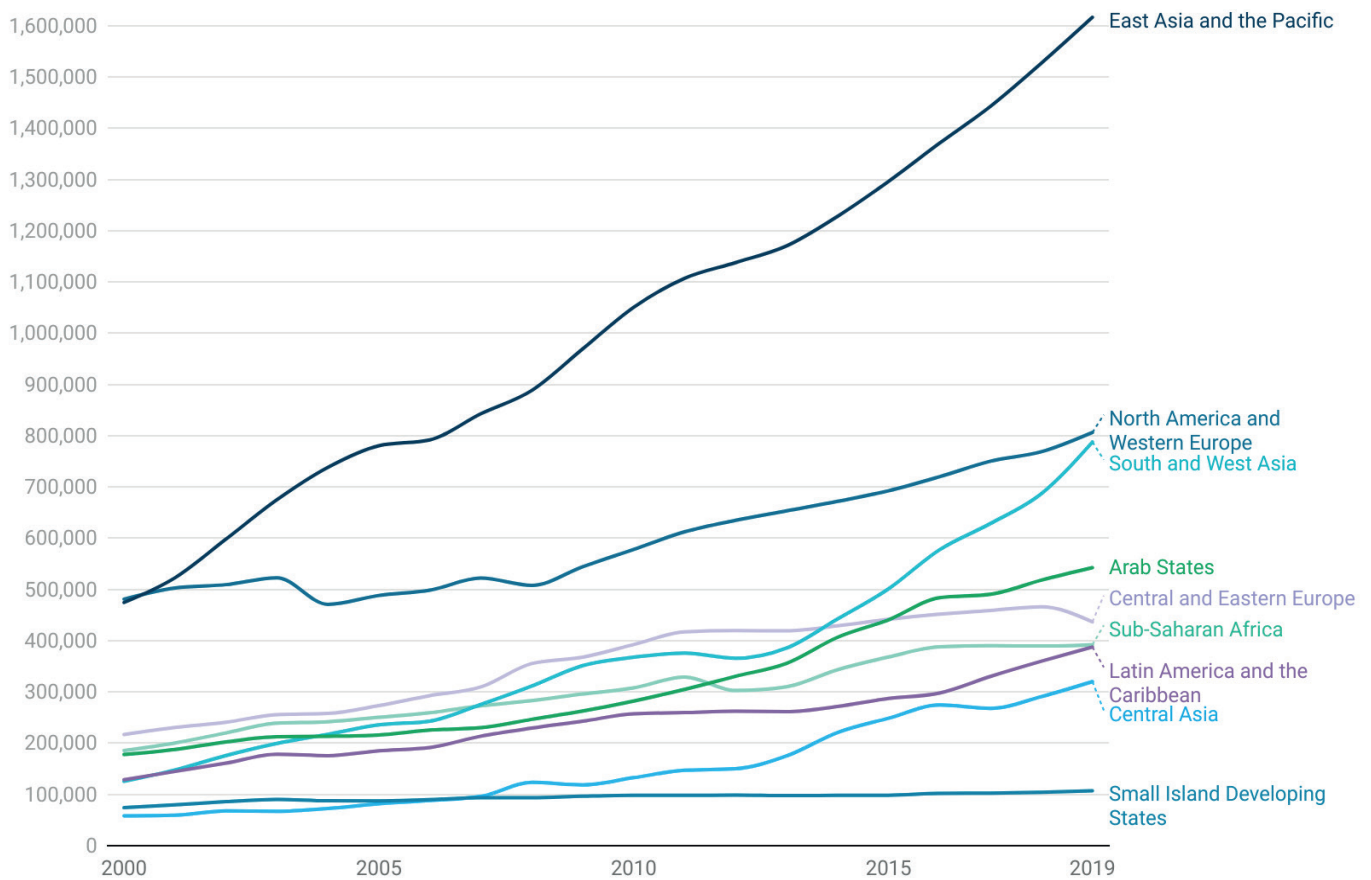


Chart: UNESCO IESALC • Source: UNESCO Institute for Statistics • Created with Datawrapper

Available to download at <https://datawrapper.dwcdn.net/BX7PL/1/>

**1.2 Uneven global growth and unequal access in student mobility**

Notwithstanding the extensive growth in student mobility across world regions, it has still only reached a tiny proportion of the world’s tertiary student population – just 2.6%.<sup>4</sup> This lack of equity is felt even more keenly in certain world regions, as shown in *Figure 2*. Latin America and the Caribbean has the lowest percentage of internationally mobile students at just 1.3% of the

student population. While South and West Asia is the region that has experienced the largest growth in outbound mobility, its overall figure is similarly very small at 1.7% of the student population. Most other world regions have outbound mobility percentages of between 2.1% and 7.4%. Central Asia is an outlier, with 14.4% of students being internationally mobile. And, while global enrolment in higher education has increased from 100 million in 2000 to almost 231 million in 2019, with mobility rates growing proportionate-

4 2019 global student population enrolled in tertiary programmes between ISCED level 5-8 was 230,945,788. Source: <http://data.uis.unesco.org/>. ISCED is the International Standard Classification of Education. ISCED Level 5 refers to short-cycle tertiary education, ISCED Level 6 = Bachelor’s or equivalent; ISCED Level 7 = Master’s or equivalent; ISCED Level 8 = Doctoral or equivalent. The figure for internationally mobile tertiary students may even be underestimated, because they only tend to capture students pursuing an award at a foreign institution and often fail to include other types of student mobility, such as short-term exchange programmes that are not necessarily designed to lead to a degree in the host country. Thus, the actual cross-border mobility of higher education students could be much higher.

**Figure 2: Regional differences in student mobility, 2019**

**PERCENTAGE OF STUDENTS WHO ARE INTERNATIONALLY MOBILE BY REGION**

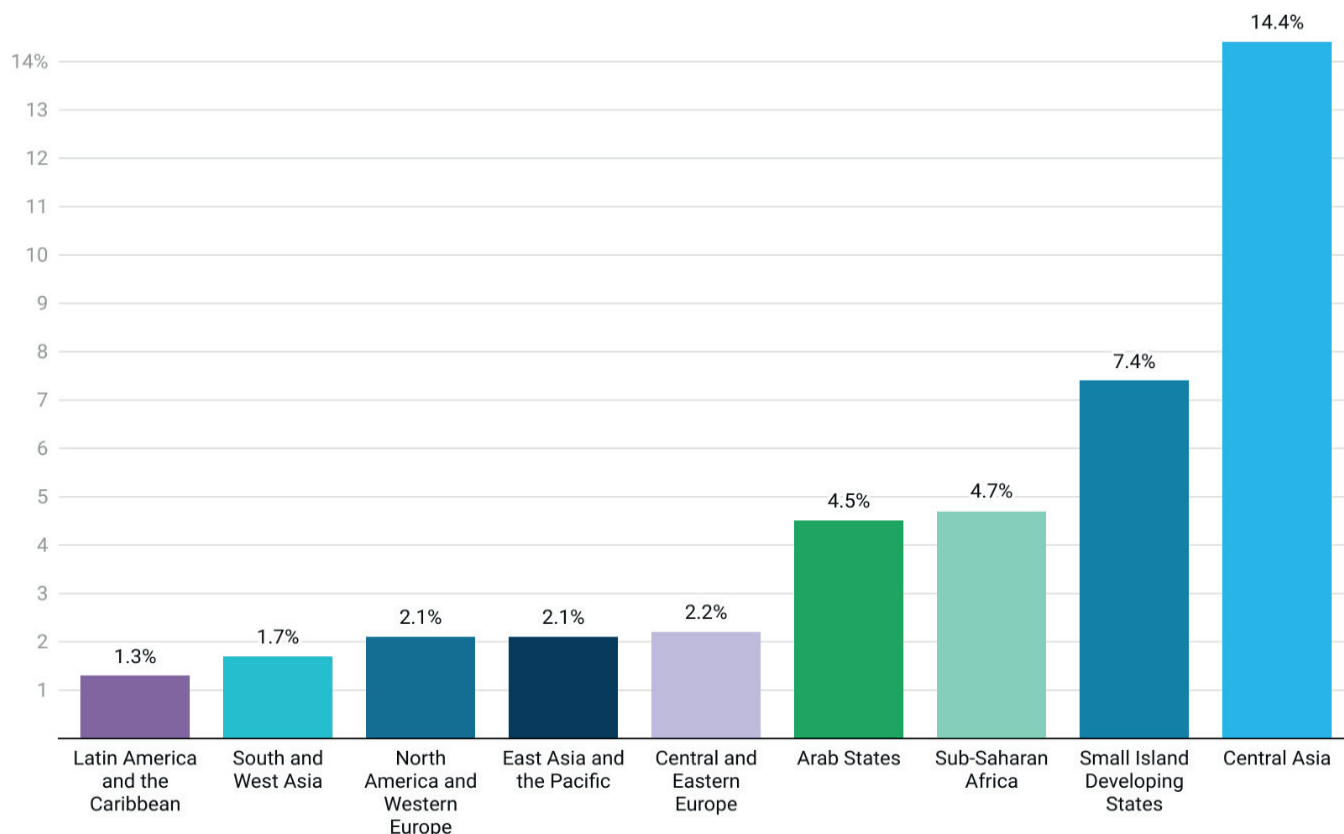


Chart: UNESCO IESALC • Source: UIS Statistics • Created with Datawrapper

Available to download at <https://datawrapper.dwcdn.net/eCSJN/2/>

**Figure 3: Top ten international student destinations, 2019**

**TOTAL NUMBER OF STUDENTS BY DESTINATION COUNTRY**

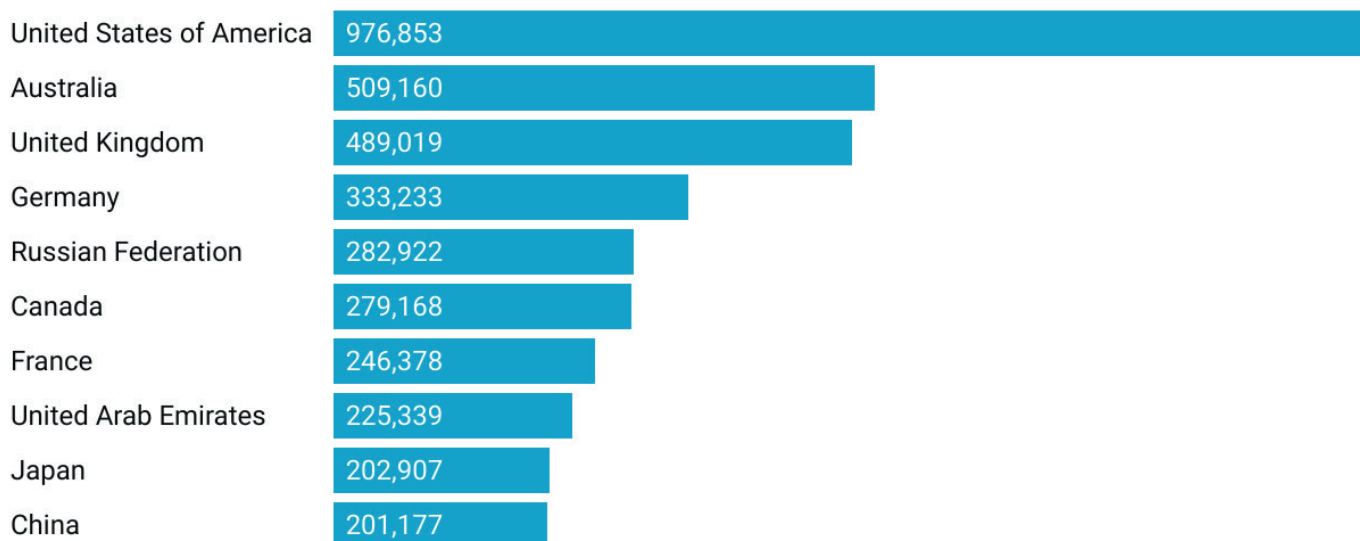


Chart: UNESCO IESALC • Source: UIS Statistics • Created with Datawrapper

Available to download at <https://datawrapper.dwcdn.net/wi0kB/1/>

ly even faster, the percentage of students who are internationally mobile has remained almost static during this period.

Not only has access to student mobility been very exclusive, but it has also been concentrated in specific regions, with most students going from countries in the Global South to those in the Global North and far fewer travelling in the other direction. Student flows have become more unequal and centralized over time (Shields, 2013) and in 2019, one third of all international students were studying in just three Anglophone destinations: the United States, Australia, and the United Kingdom. In total, just over 60% of all international students were located in one of the top 10 international student destination countries in 2019, as shown in *Figure 3*.

While there are admirable developmental rationales for the cross-border movement of students, the encroachment of market forces into higher education has led to the instrumentalization of student mobility and its conflation with a (global) competition discourse. For some states, typically in the Global North, recruiting students from other countries has become linked to immigration policy. In these cases, student mobility serves as a sorting mechanism for identifying highly skilled and domestically qualified future immigrants. This creates power differentials between the countries that leverage international students as future immigrants, and those that provide the flow of students, described alternatively as 'brain drain' (UNESCO, 2007), thereby replicating historic imbalances in international relations.

HEIs that pursue student mobility as part of their internationalization activities may do so with noble goals to diversify their student body and deepen their international engagement. At the same time, it is difficult to ignore the financial impact derivable from the revenue-generating potential of student mobility. In 2018, for example, international students brought an estimated

US\$45 billion into the US economy, making international education one of the top export industries (Institute of International Education, 2019).

In sum, there is strong evidence of the benefits that student mobility can bring to individuals and their communities. Yet these advantages are hugely outweighed by the current state of student mobility, to which access is incredibly restricted, globally imbalanced, and often driven by economic imperatives of competition. These unreconciled differences had already led to major debates over the future of student mobility (Sabzalieva, 2020) and, as the next section illustrates, the onset of the Covid-19 pandemic has complicated these issues even further.

### **1.3 Impact of the Covid-19 pandemic on student mobility**

It is not an understatement to say that the onset of the Covid-19 pandemic has led to a paradigm shift for higher education student mobility (UNESCO IESALC, 2021a). By April 2020, schools and HEIs were closed in 185 countries, affecting about 1.5 billion learners (UNESCO, 2020). Apart from causing major disruptions to teaching, learning and research, it has also adversely affected many internationalization activities of universities, primarily the mobility of students and staff (UNESCO IESALC, 2020). Student mobility has been severely affected, particularly due to the closure of many university campuses and international travel restrictions (IEASA, 2020).

During 2020, the 'continuing restrictions on travel and the issuance of visas have halted short-term mobility in most of the world' (Salmi, 2020, p. 7). International students were grounded at foreign institutions, student exchanges were cancelled, and many students who had planned to take up mobility opportunities were faced with the interruption of their study programs. In Europe alone, over 100,000 participants in Erasmus+ mobility programs were affected by the Covid-19

situation – 75% of those who were in the mobility program at that time (European Commission, 2020).

The Covid-19 pandemic is already having a serious impact on the international higher education sector. Enrolment in short-term student exchanges has dropped markedly (Mason, 2021). The decrease in the number of international student numbers will have severe consequences for HEIs, mainly in the Global North, particularly those for which international student tuition fees are the main source of income (Bilecen, 2020).

However, despite the border closures and uncertainties around future enrolments which have continued well into 2021, there is still strong demand from students for international education (Mason, 2021). This is part of a broader context that has demonstrated not only the importance of international academic relations but the 'imperative to strengthen spaces for cooperation and international mobility because we are increasingly dependent on them to face the challenges of the present and the future' (Pedró, 2021a).

The continued demand for international exchange at a time of border closures couples with an astonishing global transition from in-person to online teaching and learning (UNESCO et al., 2021). This shift has demonstrated the potential of higher education to deploy technology to ensure pedagogical continuity, which, as the pandemic has continued to unfold, has also showcased the possibilities for creativity and experimentation. For student mobility, the pandemic has been a wake-up call, bringing previous inequities and the lack of sustainability under a harsh spotlight.

## 1.4 Aims of the report

It is in the context of the wake-up call for student mobility induced by the pandemic that this re-

port came into being. This is not a call to abandon student mobility. On the contrary, now more than ever, the mutual and respectful interchange of ideas and knowledges is crucial to our shared future.

With this in mind, this report sets out to reimagine student mobility for our post-pandemic world. It argues for a reconceptualization of student mobility that takes it beyond the traditional notion of people physically crossing borders, calling for the democratization of student mobility to overcome its exclusivity (Pedró, 2021b). This reimagination is also a response to the border closures that have rendered physical mobility impossible as well as the ramifications of physical mobility for the environment at a time of planetary climate crisis (UNESCO, 2021).

The report focuses on **virtual student mobility** as a modality that could significantly increase access to international education and experiences well beyond the scope of what is possible with physical mobility, with or without travel restrictions. Virtual student mobility (VSM) also presents exciting opportunities to harness technology for good in higher education and reduce the environmental impact of physical student mobility. The report makes the case for integrating VSM into HEIs' internationalization activities, demonstrating how it can be used as a standalone mobility experience or coupled with physical mobility in a hybrid format.

While data on physical student mobility has been well covered in previous studies, there is no comparable baseline to understand the extent to which VSM is already being deployed in HEIs around the globe.<sup>5</sup> As such, a secondary aim of this report is to provide a foundation for understanding what VSM is, how it compares to other forms of student mobility, to analyze its advan-

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5 The Stevens Initiative has collected data on virtual exchange involving US schools, institutions and organizations covering over 3,000 programmes (2020/21 report). See <https://www.stevensinitiative.org/resources/>.

tages and limitations, and to provide data on cases where VSM is already being deployed.

The report presents 14 case studies of VSM activities that have been implemented by 73 HEIs across 38 countries and the findings of a student survey completed by 107 students at 17 of these HEIs. These case studies offer important information and insights into how VSM operates both when physical mobility is an option as well as during the current conditions in which physical movement has been disrupted. The cases also provide details about students' experiences of VSM.

The findings from these case studies are also designed to help other HEIs that are in the earlier stages of considering the possibilities of VSM, to work through both the enabling and challenging factors, and to understand how to account for the specific contextual factors that will inform each individual situation. Based on the case studies, the report offers a series of highly practical recommendations both for HEIs and for policymakers. These are designed to enable institutions and states to support the development of VSM as part of the suite of student mobility options in a post-pandemic environment.

## 2 Forms of student mobility

The most common type of student mobility is physical mobility (PSM). This is the mobility form that is measured, and which is most likely to feature in policy and institutional strategies on higher education internationalization. VSM came into being with the advent of the Internet and the development of information and communication technologies, yet prior to the Covid-19 pandemic, it played a peripheral role in higher education internationalization. A third form of student mobility is hybrid mobility (HSM), combining elements of both PSM and VSM.

Both physical and virtual forms of mobility are recognized at international level: the Global Convention on the Recognition of Qualifications concerning Higher Education defines mobility as 'the physical or virtual movement of individuals outside their country for the purpose of studying, researching, teaching, or working'<sup>6</sup>

### 2.1 Physical student mobility (PSM)

Physical student mobility (PSM) refers to a stay in another country that can be of varying duration with travel undertaken for academic, professional, or cultural reasons relating to higher education. PSM has long been considered the core activity in the internationalization of higher education (Teichler, 2017). This is partly because PSM (and the physical mobility of academic staff and occasionally administrative staff) is the most visible international activity, which is one reason that it has been at the forefront of programs aiming to promote internationalization in higher education.

### 2.2 Virtual student mobility (VSM)

Virtual student mobility (VSM) has been on the rise in recent decades since the term emerged in the 1990s (van der Wende, 1998), although no

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<sup>6</sup> [http://portal.unesco.org/en/ev.php-URL\\_ID=49557&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=49557&URL_DO=DO_TOPIC&URL_SECTION=201.html)

**Table 1: Functions of VSM – Academic, experiential, cultural**

Academic	Cultural	Experiential
<ul style="list-style-type: none"> <li>• Studying for a course at another HEI. Usually credit-bearing. Cross-border and/or inter-institutional.</li> <li>• Studying for an entire program at an HEI in another country. Always credit-bearing. Cross-border.</li> </ul>	<ul style="list-style-type: none"> <li>• One-off and longer-term projects/activities/ events/programs to support students to learn more about another setting. May be credit-bearing. Cross-border or inter-institutional.</li> <li>• Build skills (e.g. confidence, language, intercultural), potentially ahead of a physical mobility experience. May be credit-bearing. Cross-border.</li> </ul>	<ul style="list-style-type: none"> <li>• Obtaining work experience at a company or organization based in another country or obtaining work skills. Sometimes credit-bearing. Cross-border.</li> </ul>

Source: UNESCO IESALC

numbers are currently available to measure global participation in this form of student mobility. Nevertheless, it can be assumed that the number of students participating in VSM will have accelerated due to the travel and health restrictions related to COVID-19.

VSM covers a comprehensive range of higher educational activities. UNESCO IESALC defines VSM as a **form of mobility that uses information and communication technologies to facilitate cross-border and/or inter-institutional academic, cultural, and experiential exchanges and collaboration which may be credit-bearing or not for credit.**

VSM can be embedded as part of the regular modality of exchange and collaboration and/or be used to respond to emergencies that temporarily restrict physical mobility. The latter describes the experiences of many students who are now participating in international exchanges, albeit virtually, due to the temporary halt in physical mobility programs on account of the Covid-19 pandemic.

VSM has three functions – academic, cultural, and experiential. Depending on the individual VSM activity, one or more of these functions may be present. These functions are described in Table 1. Due to the flexibility offered by the virtual mode, VSM activities can be integrated into an existing course or offered as a standalone course/program, which could be credit-bearing or extra-cur-

ricular (European Union & EACEA, 2020). For example, a student participating in an online workshop hosted by a HEI abroad is VSM. A student that is taking classes in his/her HEI and the class is participating in COIL is also VSM. A student that is doing an online internship, is also VSM.

As can be seen, the functions and purposes or objectives of VSM are more or less similar to those of PSM: knowledge exchange, work experience in another country, and/or cultural immersion. As researchers have noted:

*‘Virtual and physical mobility are two different sides of the same coin, although they were both conceived as different educational methods, and they both have their own future. However, neither one is less important than the other. Each one has its own characteristics and legitimacy. Furthermore, they both complement and reinforce each other in different ways’ (Ruiz-Corbella & Álvarez-González, 2014, p. 167)*

Whereas UNESCO IESALC uses the term VSM, it is worth noting that there are two other terms that are becoming more widespread. *Collaborative Online International Learning (COIL)* has gained popularity in recent years, especially in the United States (Villar-Onrubia & Rajpal, 2016). Whereas VSM focusses on non-physical forms of mobility, COIL tends to emphasize in more specific terms the intended processes and effects of virtual teaching and learning processes (de Wit, 2013; Van Hove, 2019). Another term in use is *virtual ex-*

**Table 2: Opportunities and challenges of VSM**

Opportunities	Challenges
<p>Opens access to groups currently under-represented in or unable to access student mobility programs. This includes students who are:</p> <ul style="list-style-type: none"> <li>• Disabled</li> <li>• Migrants and refugees</li> <li>• Of limited financial means</li> <li>• Part-time, working, or carers</li> </ul>	<p>May still <b>restrict access</b> for students with certain disabilities (e.g. with audio or visual disabilities) unless HEIs make suitable adjustments.</p>
<p><b>Cheaper</b> than PSM</p>	<p>The <b>digital divide</b> may continue to exclude students from/ within countries where internet / device access is lower</p>
<p>More <b>flexible</b>, especially if offered asynchronously: students can fit the mobility around their other responsibilities.</p>	<p>Lack of <b>digital literacy</b> could hinder deep engagement with VSM</p>
<p>More <b>environmentally sustainable</b> with less air travel</p>	<p><b>Quality</b> is not yet well understood or defined</p>

Source: UNESCO IESALC

*change*, which is ‘an emerging method that uses technology to connect young people around the world to learn and work together’ (Stevens Initiative, 2021). In this report, we use the term VSM inclusively, implying that it also covers those ideas and learning gained from works where the COIL and virtual exchange terminology are applied.

Other terms such as cross-border higher education and transnational education are not dealt with in this report as they typically refer to the movement of HEIs and courses rather than people (Knight & Liu, 2016).

### 2.3 Hybrid student mobility (HSM)

A third type of student mobility is hybrid student mobility (HSM). This combines elements of both physical and virtual mobility. If we consider VSM and PSM as the two ends of the mobility spectrum, HSM covers the wide variation in between. It has more flexibility to adapt and to cope with both students’ demands and expectations of mobility activities, as well as those conditions that can realistically be provided. With the increase in VSM, it is likely that HSM practices will also increase. This will be an important area for future data collection, research, and policy change.

## 3 Opportunities and challenges of Virtual Student Mobility

Up until the Covid-19 pandemic, the rollout of VSM had been limited. The onset of the pandemic led many HEIs to shift their student mobility provision to virtual forums, and 60% of higher education institutions (HEIs) reported an increase in virtual mobility practice as a result of the global health crisis (Marinoni et al., 2020). As VSM has historically been less widespread and therefore less well understood, this chapter discusses the opportunities it presents in terms of access/inclusion and sustainability as well as the challenges it raises, which may be different from the challenges posed by PSM. The key opportunities and challenges are summarized in Table 2.

### 3.1 Access and inclusion

As VSM offers the opportunity for students to enjoy an international experience without the need to travel abroad, it has excellent potential to open access and opportunities to students who would otherwise be unwilling or unable to travel due to physical, social, or financial reasons. VSM has the potential to be more inclusive of groups such as

students who are disabled, who are migrants or refugees, who have limited financial means, and those who study part-time and/or have work or caring responsibilities.

### 3.1.1 Disabled students

Students with disabilities can face significant challenges, such as extensive preparation, psychological barriers, inaccessible campuses, and insufficient support (for example, cooking or medical support), when planning to join physical student mobility programs (Järvenpää & Szymaszek, 2020; Van Hees & Montagnese, 2020). Students with disabilities are still underrepresented in international mobility programs. For instance, Flemish statistics show that in the academic year 2018-2019, students with disabilities represented a very small proportion at 0.95% of mobile degrees. Only 498 out of 284,149 Erasmus + students and trainees in 2016 received the Erasmus+ Special Needs Support which targeted disabled students. This further deepens the already disadvantaged position of disabled students among their peers (Van Hees & Montagnese, 2020). For students with certain disabilities such as being blind, deaf, or autistic, VSM may pose different challenges and the needs of such learners must be considered to ensure that VSM is an inclusive experience.

### 3.1.2 Migrant and refugee students

Migrant and refugee students who may not have adequate traveling documentation may also find it easier to participate in VSM programs. Even if they have permission to travel abroad for educational purposes, migrants, refugees and undocumented persons may be discouraged from doing so, out of fear of jeopardizing their legal status (Mangan, 2016). VSM programs may also be a mobility opportunity for refugees who are generally older and have family commitments (Bruhn, 2020). However, it is important to consider that migrants and refugees may not

have access to a suitable device and good internet connection to be part of a VSM experience as they are more likely to live in areas which frequently lack digital networks and infrastructure, or where the connectivity available is too expensive (UNHCR, 2016).

### 3.1.3 Students with limited financial means

Social selectivity for international student mobility relies to a substantial degree on the student's ability to pay a significant portion of the cost of the mobility program. Consequently, a large proportion of students who complete the physical mobility experience come from families with an above average economic status and higher educated parents (López-Duarte et al., 2021). Economic inequality makes PSM largely unattainable for students from lower socioeconomic classes and underprivileged backgrounds. Because VSM cuts out many of the costs involved in PSM, such as travel and accommodation, it can offer more comprehensive access to international experiences by cutting out travel and accommodation costs for students whose financial circumstances may not otherwise permit them to participate.

### 3.1.4 Part-time students / Students who also work or have caring responsibilities

In some instances, the idea of physical mobility is not always inherently desirable as some students choose to stay at home while studying abroad because they work in their country of residence to gain experience and also due to personal decisions to stay closer to their families (Roos Breines et al., 2019). The flexible learning experience and autonomy (being responsible for and taking charge of one's learning) that VSM offers for students with family and caring responsibilities, and those who wish to study while working in their home countries, makes it a preferred alternative to PSM. Still, in these cases where students are not full-time, their ability



to juggle school, work and family commitments needs to be assessed, to maximize the benefits of the VSM experience.

### 3.2 Environmental sustainability

International mobility, the hallmark activity of higher education internationalization, relies heavily on-air travel and contributes directly to the global climate crisis. Student mobility contributes to HEIs' overall environmental footprint (Arsenault et al., 2019); at a global level, it is 'highly damaging to the planet' through greenhouse gas emissions that match the outputs of entire countries (Rumbley, 2020). It is estimated that the emissions from international student mobility in higher education to be at least 14 megatons of carbon dioxide (CO<sub>2</sub>) per year (Shields, 2019). VSM can be a creative solution to offset these detrimental environmental effects, thus contributing to SDG 13, which seeks to combat climate change and its impacts. This had already led international higher education experts to recommend that short-term mobility lasting eight weeks or less to reduce the number of short-haul flights being taken, and to propose greater use of virtual forms of mobility (de Wit & Altbach, 2020).

### 3.3 Virtual interactions

Global time zone differences may make it challenging to find the best time to schedule courses and other programs, especially for regions where great disparities in time-zones exist, for example, between Latin America and Asia or Australasia. In such instances, synchronous communication may prove to be more complicated to implement, compared with asynchronous forms. Time zone differences may increase the difficulty of synchronous learning activities and programs that prioritize these types of interactions. While VSM may offer this flexibility in terms of learning, students may feel isolated and lonely with

no or limited physical interactions, which likely connects to the mental health challenges that result from studying during COVID-19 (Visser & Law-van Wyk, 2021).

### 3.4 The digital divide

While VSM can foster access and inclusion, it can still exclude a group of students who do not have access to technology and the internet – a situation commonly known as the global digital divide. The global digital divide describes disparities, primarily between countries, in access to technology and the internet and the opportunities derived from such access. For example, whereas there is a 94% internet penetration rate in North America, this figure is only 43% in Africa (Sabzalieva et al., 2021).

Substantial digital divides also exist within countries among other demographic characteristics such as income, age, race, gender, and location. For instance, only 8% of youth aged 15–24 in low-income countries have internet access compared to 89% of their counterparts in high-income countries (UNICEF, 2020). The high costs associated with purchasing laptops or mobile phones plus broadband to facilitate connectivity can act as barriers to participate in VSM activities, and poor bandwidth in some areas can affect the VSM experience.

### 3.5 Digital literacy

VSM, if not supported by ICT provision for disadvantaged students, may further widen inequalities in access to an international experience and collaborative learning. Beyond the inequalities in access to technology and the internet, VSM can potentially exclude those students who, even if they have access to internet and technology and use digital technologies and services in daily life, are not able to use it efficiently for knowledge and learning purposes in their subject fields, or might have not received instruction on ethics,

etiquette and safety regarding communications and data exchanges (Gaebel et al., 2021). Low digital literacy for some students who may not have the know-how to install and operate the hardware and software that make VSM possible, presents issues in relation to participation and performance. It is also important to train staff and faculty on digital skills to ensure a good VSM experience for students (Gaebel et al., 2021).

### 3.6 Quality issues

While VSM has the potential to increase quality education by opening access to world-class teaching staff and course content, it remains less widespread than PSM. Students and their families may perceive it as an inferior and limited cross-cultural and learning experience compared to physical forms of mobility. Furthermore, to date, VSM has not gained as much recognition by employers and HEIs, who may find it more difficult to recognize that cross-cultural learning can occur despite no physical borders being crossed. In addition, some countries still have legislation in place which prevents the official recognition of qualifications gained by distance learning (UK NARIC, 2020), and in many countries, they are regarded as inferior qualifications.

## 4 Virtual Student Mobility in practice

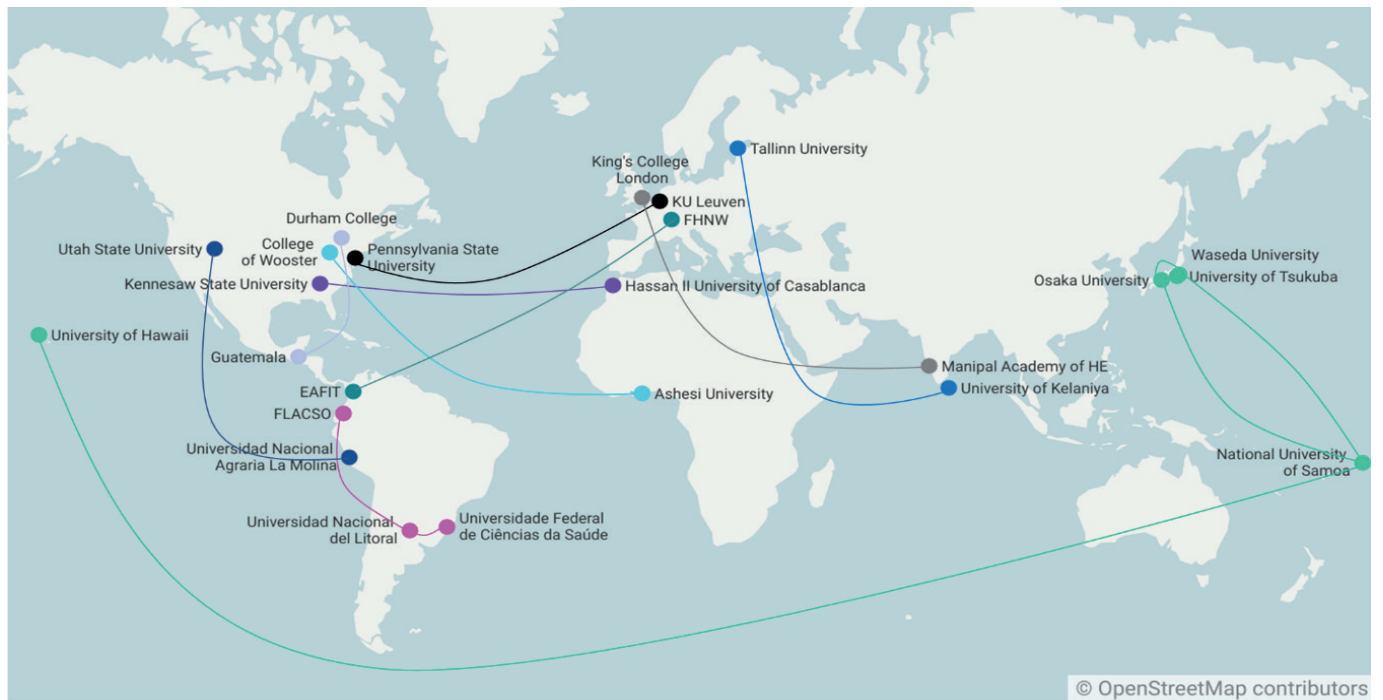
To understand how VSM has been and is being implemented, 14 case studies were collected. In almost all cases, there was a partnership of at least two HEIs. In total, 73 HEIs are included in the case studies. Spanning the globe, the case studies showcase a range of VSM activities that were being undertaken in 2020 or 2021. This section provides information on the case study partners and shares the findings from interviews with faculty and International Office staff.

The key enablers and challenges in integrating VSM into the post-pandemic internationalization landscape are presented according to the main themes that emerged from the interviews: motivation, partnerships, funding, student selection, course design and delivery, technology and connectivity, and administrative arrangements. The following chapter discusses the experiences of students who participated in the VSM programs.

### 4.1 Case study selection

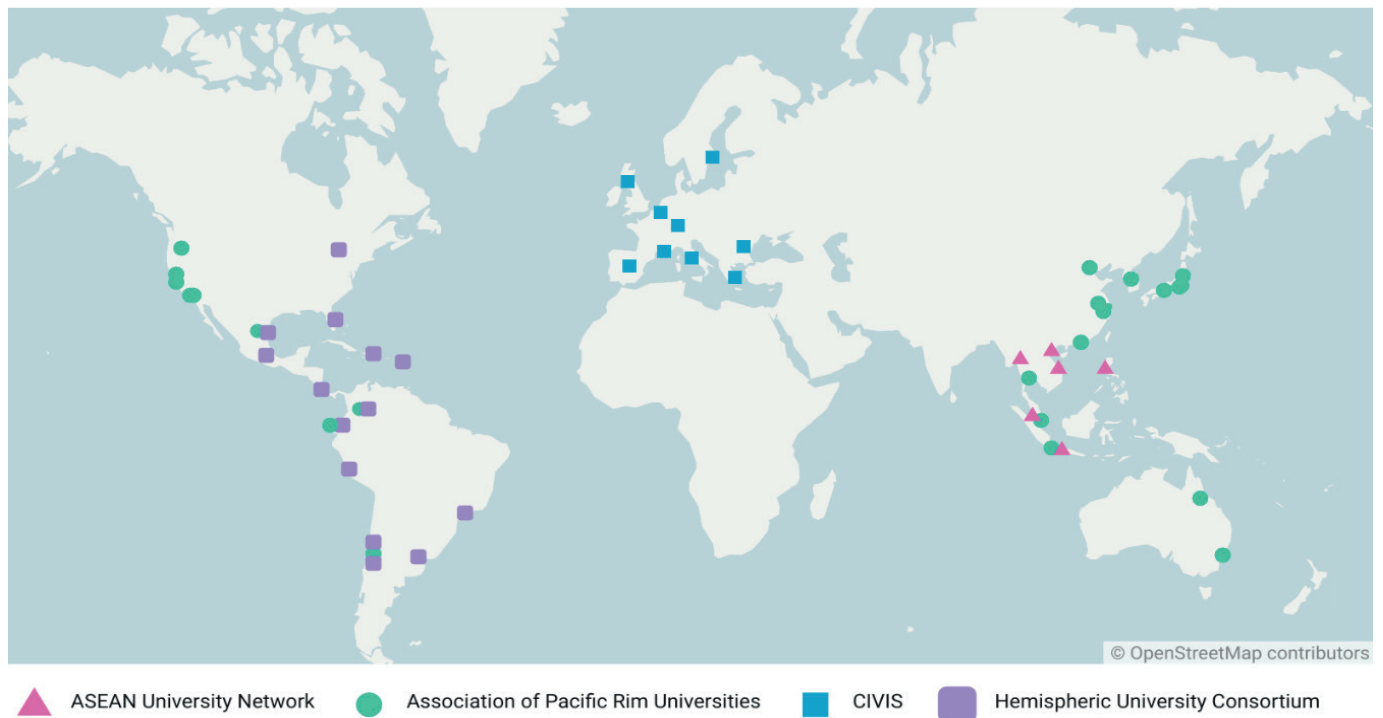
14 case studies were selected for this study involving 73 HEIs in 38 countries. Each case study is based on one or more VSM program that ran between July 2020 and December 2021. The case studies represent the most common types of VSM partnerships: single institutions undertaking VSM activities sometimes carried out with the support of a community partner; bilateral partnerships between two HEIs in different countries; and multi-institutional partnerships or alliances representing larger groups of HEIs across one or more world region. Of the 14 case studies, only one program existed in virtual format before the pandemic. Eight programs were adaptations of PSM in response to the pandemic, and five were new, created in response the pandemic.

**Figure 4: Map showing the institutional case studies selected for this study**<sup>7</sup>



Map: UNESCO IESALC · Source: UNESCO IESALC · Created with Datawrapper

**Figure 5: Map showing the alliances case studies selected for this study**



Map: UNESCO IESALC · Source: UNESCO IESALC · Created with Datawrapper

Cases were selected to represent different types of partnerships spanning all world regions as well as different VSM activities (academic, cultural,

experiential). Most of the VSM programs had been launched as a result of the Covid-19 pandemic, but some case study HEIs had previously

7 Durham College partnered with an NGO in Guatemala and Universidad Nacional del Litoral's Winter School invited faculty from FLACSO (Quito) and Universidade Federal de Ciências da Saúde.

been working with VSM and were able to add valuable insights based on their longer experience. A mix of publicly and privately funded HEIs were included in the case studies.

Interviews were conducted with faculty members and International Office staff at one or more of the HEIs involved in each case study. The faculty interviewed were people directly involved in the design and implementation of the VSM program who were able to discuss the content of the VSM program and how it was operationalized. Where an HEI had worked with its International Office on a VSM activity, staff were able to comment on how VSM is integrated into the internationalization strategies of HEIs, the partnerships required and enabling factors for a successful VSM strategy. Both faculty and staff discussed student support and the relative advantages and disadvantages of VSM.

In addition to the interviews, an online survey for students who had participated in a single institution or bilateral institution VSM activities was produced. The survey was completed by 107 students at 17 HEIs in 12 countries (representing eight of the case studies). The findings on students' experiences are discussed in the next chapter.

In the case of the interviews with higher education alliances, the project team also received valuable additional inputs from representatives of the Hemispheric University Consortium (HUC) and CIVIS European University at additional meetings convened to explore VSM issues and good practices in more depth.

The following two maps show the location of case study institutions and the parties with whom they connect across the 14 partnerships. Despite

extensive efforts to identify a wide array of partnerships, the cases are nevertheless dominated by North-North and North-South connections. This highlights the global inequities in internationalization flows as well as the basic logistical constraints (e.g., connectivity) faced by many HEIs, and the barriers this presents to internationalization.

## 4.2 Overview of case studies

Each case study represents a different combination of VSM program, partnership, purpose, and features. The VSM activities covered a wide range of content and skills bases including global health; women's leadership; digital storytelling; innovation, entrepreneurship and technology transfer; engineering; sustainable development; climate change; intercultural learning; communications; leadership; and opportunities to gain work experience through internships.

Some of the VSM case studies were online adaptations of pre-existing PSM programs, whereas others were developed specifically in response to the Covid-19 context. The key features of each case are listed in Table 3. The single institution and bi-/multi-lateral case study HEIs are based in 15 countries: Argentina, Belgium, Canada, Colombia, Estonia, Ghana, India, Japan, Morocco, Perú, Samoa, Sri Lanka, Switzerland, UK, USA. Altogether, the alliance case studies include 54 HEIs in 30 countries.

**Table 3: Key features of the VSM case studies**

VSM program (how it is referred to in the text)	Partners	Type of VSM <sup>8</sup>	Credit-bearing?	Program aim and overview	Length	Number of students	Targeted students	Partnership type
<b>Applied Methods and Research Experience (AMRE)</b>	<ul style="list-style-type: none"> <li>· Ashesi University, Ghana</li> <li>· The College of Wooster, USA</li> </ul>	Experiential	Non-credit-bearing	Internships: Ashesi students join Wooster students and faculty advisors working at a local and international business, industry or agency, picking up real-world experience.	8 weeks	30 students on average (4-8 students from Ashesi and the rest from Wooster)	Senior-level undergraduate; Engineering, Computer Science and Business Administration	Bilateral institutional
<b>Virtual Student Exchange Program (APRU)</b>	Association of Pacific Rim Universities <sup>9</sup> (APRU) - includes 28 universities in 12 countries in Asia, Australasia, and the Americas. VSM program led by Chinese University of Hong Kong.	Academic, cultural	Credit-bearing for academic courses; non-credit-bearing for others	Students can take up to two academic VSM courses per season. Co-curricular programs include language learning, virtual tours, interview training, leadership training, communications skills	Approximately 12 weeks but may vary by course	1,300	Undergraduate	Alliance
<b>Open courses, Micro programs, Winter/Summer schools, Research Internships (CIVIS)</b>	CIVIS <sup>10</sup> a European University- includes 9 universities in 9 countries in Europe	Academic, cultural, experiential	Credit-bearing	Aims vary by program and topic. Includes open courses (1-10 ECTS), covers any learning experience (regardless of the duration, topic, language) organized within the CIVIS universities' curricula for different educational levels (BA/MA/PhD) and CIVIS modules that can include (micro-programs, winter/summer schools and bootcamps). Such modules (5-15 ECTS) can be offered as collaborative monodisciplinary modules, extra-curricular topics, or as transdisciplinary coursework on a challenge-oriented theme.	Varies by activity	Varies by activity	Undergraduate and graduate	Alliance
<b>Climate Change - Science and Solutions (Climate Change)</b>	<ul style="list-style-type: none"> <li>· National University of Samoa, Samoa</li> <li>· Osaka University, Japan</li> <li>· University of Tsukuba, Japan</li> <li>· University of Hawaii, USA</li> <li>· Waseda University, Japan</li> </ul>	Academic	Credit-bearing	Uses case studies from the partner countries and takes a problem-based, integrated approach to learning. Course delivered by multiple professors.	15 weeks	110 students on average per session	Each HEI determines the profile and their target students	Multi-institutional
<b>Faculty-led Classroom Abroad at Home – Digital Storytelling (Digital Storytelling)</b>	<ul style="list-style-type: none"> <li>· Durham College, Canada</li> <li>· Students Offering Support (SOS), Canada/ Guatemala</li> </ul>	Academic	Credit bearing	Students build cross-cultural and technical skills by partnering with youth in Guatemala to learn how to use digital storytelling techniques as a tool for change.	4 weeks	16-18 students per cohort	Undergraduate; Media, Art & Design	Single institution + community partner
<b>Professional and Cross-Cultural Skills in Engineering (Engineering)</b>	<ul style="list-style-type: none"> <li>· Katholieke Universiteit (KU) Leuven, Belgium</li> <li>· Pennsylvania State University (Penn State), USA</li> </ul>	Cultural	Credit-bearing	The course focuses on the primary knowledge areas and essential competencies required for successful engineers to live and work in today's global marketplace. The examines individual and cultural differences and how they impact communication and team dynamics	16 weeks	20 students (10 per university)	Postgraduate; Engineering	Bilateral institutional
<b>Entrepreneurship in Cross-Cultural Context (Entrepreneurship)</b>	<ul style="list-style-type: none"> <li>· Universidad EAFIT, Colombia</li> <li>· Fachhochschule Nordwestschweiz (FHNW), Switzerland</li> </ul>	Academic, Cultural	Credit-bearing for FHNW but not for EAFIT	The course teaches how to create a business model. Includes guest speakers from businesses in both countries.	2 weeks	30 students (12 from EAFIT and 18 from FHNW)	Undergraduate and graduate; Open to all departments	Bilateral institutional

Source: UNESCO IESALC

8 For a description of VSM types, please refer to Section 2.2

9 Chulalongkorn University (Thailand); Keio University (Japan); Korea University (South Korea); Nanjing University (China); Nanyang Technological University (Singapore); Osaka University (Japan); Shanghai Jiao Tong University (China); Tecnológico de Monterrey (Mexico); The Chinese University of Hong Kong, Hong Kong SAR (China); The Hong Kong University of Science and Technology, Hong Kong SAR (China); The University of Queensland (Australia); Tohoku University (Japan); Universidad de Chile (Chile); Universidad de los Andes (Colombia); Universidad San Francisco de Quito (Ecuador); Universitas Indonesia (Indonesia); University of California, Davis (USA); University of California, Los Angeles (USA); University of California, Riverside (USA); University of California, Santa Cruz (USA); University of Oregon (USA); University of Science and Technology of China (China); University of Sydney (Australia); University of New South Wales, Sydney (Australia); Waseda university (Japan); Yonsei University (South Korea); Zhejiang University (China) Nagoya University (Japan).

10 Aix-Marseille Université (France); National and Kapodistrian University of Athens (Greece); University of Bucharest (Romania); Université libre de Bruxelles (Belgium); Universidad Autónoma de Madrid (Spain); Sapienza Università di Roma (Italy); Stockholm University (Sweden); Eberhard Karls Universität Tübingen (Germany), University of Glasgow (United Kingdom).

VSM program (how it is referred to in the text)	Partners	Type of VSM <sup>a</sup>	Credit-bearing?	Program aim and overview	Length	Number of students	Targeted students	Partnership type
<b>Virtual Global Health Elective</b> (Global Health)	<ul style="list-style-type: none"> <li>King's College London (KCL), UK</li> <li>Manipal Academy of Higher Education (MAHE), India</li> </ul>	Academic	Non-credit bearing	Focus on global health. Weekly themes included the impact of COVID on global health, infectious diseases, non-communicable diseases, and maternal health care. Clinician academics from both schools shared insights and reflections on each of these themes. Students worked in small mixed groups to build social connections and boost intercultural understanding.	4 weeks	36 students (18 from each university)	Senior level undergraduate; Medicine	Bilateral institutional
<b>Hemispheric Student Dialogues on SDGs, The Octopus Project, International Indigenous Student Exchange, Global Week, Virtual Research Internships, Pathways to Prosperity, HUC-COIL</b> (HUC)	<ul style="list-style-type: none"> <li>Hemispheric University Consortium (HUC) <sup>11</sup> - includes 14 universities in 12 countries in the Americas.</li> <li>Different programs connect different universities within the alliance.</li> </ul>	Academic, Cultural, Experiential	Credit-bearing for academic courses; non-credit-bearing for others	Aims vary by program. Includes workshops for students aimed at addressing the key challenges of the 21st century, an art project with local schools and NGOs, virtual befriending and language skills, research skills virtual research internships, social entrepreneurship and COIL and VSM collaborations	Varies from one week to one full semester	Over 3,430 students (close to 1,310 just on HUC-COIL and 1,860 Global Week)	Profile varies by program. Includes International Indigenous Student Exchange was targeted to indigenous students.	Alliance
<b>Innovation, Entrepreneurship and Technology Transfer</b> (Innovation)	<ul style="list-style-type: none"> <li>Universidad Nacional Agraria La Molina (UNALM), Perú</li> <li>Utah State University, USA</li> </ul>	Academic	Credit-bearing	Strengthen students' business skills and support them in innovation and generation of technology-based ventures to be relevant actors in the development of the country.	6 weeks	46 students	Undergraduate high-performance students with working knowledge of English on the last semesters of university	Bilateral institutional
<b>Intercultural Learning through Memory Spaces</b> (Intercultural Learning)	<ul style="list-style-type: none"> <li>Tallinn University, Estonia</li> <li>University of Kelaniya, Sri Lanka</li> </ul>	Cultural	Credit-bearing	To learn about students' own, each other's and German culture, and to practice their German language skills. Course designed around 5 cultural symbols/places.	8 weeks	24 students (12 per university)	Undergraduate; German	Bilateral institutional
<b>Passage to ASEAN (P2A) Student E-xchange in Business and Entrepreneurship</b> (P2A ASEAN)	Association of South-East Asian Nations <sup>12</sup> - includes 7 universities in 5 countries in South-East Asia	Academic, cultural	Non-credit-bearing	The course objectives were to enhance business and entrepreneurship skills of students, to help them understand more about the country, culture, economy and people of ASEAN and to improve teamwork, critical thinking, leadership and problem-solving skills	3 weeks	105 (15 per university)	Undergraduate; Business	Alliance
<b>Winter School: Ten goals for the sustainable development of Latin America</b> (Sustainable Development)	<ul style="list-style-type: none"> <li>Universidad Nacional del Litoral (UNL), Argentina</li> </ul>	Academic, Cultural	Credit-bearing	Focuses on solving sustainable development issues and challenges faced by Latin American countries. Develop students' communication and cross-cultural skills.	4 weeks	25 students (15 international students and 10 students, all from UNL)	All students	Single institution
<b>Women's Leadership Virtual Exchange</b> (Women's Leadership)	<ul style="list-style-type: none"> <li>Hassan II University of Casablanca (H2UC), Morocco</li> <li>Kennesaw State University (KSU), USA</li> </ul>	Academic / Cultural	Credit-bearing for KSU but not for H2UC	This program provides participants with a better understanding of the challenges and obstacles that exist for increasing women's rights and leadership roles in society. Students learn about women's leadership and advance their abilities to work in international contexts as they develop the intercultural competency needed in today's global society.	3 months	<b>Fall 2020</b> - 40 students (23 from H2UC and 17 from KSU) <b>Spring 2021</b> - 37 students (25 from H2UC and 12 from KSU) <b>Fall 2021</b> - 52 students (26 from H2UC and 26 from KSU)	Undergraduate; English (H2UC); students in certain electives e.g. Politics in the Middle East or Transnational Feminism (KSU)	Bilateral institutional

Source: UNESCO IESALC

11 Universidad Austral (Argentina); Universidade de São Paulo (Brazil); York University (Canada); The University of the West Indies (Caribbean); Universidad Andrés Bello (Chile); Pontificia Universidad Católica de Chile (Chile); Universidad de los Andes (Colombia); Universidad de Costa Rica; Pontificia Universidad Católica Madre y Maestra (Dominican Republic); Universidad San Francisco de Quito (Ecuador); Tecnológico de Monterrey (Mexico); Universidad de las Américas Puebla (Mexico); Universidad Peruana Cayetano Heredia (Peru); University of Miami (United States of America).

12 Hanoi University of Science and Technology (Vietnam); Duy Tan University (Vietnam); University of Malaya (Malaysia); Panpacific University (Philippines); Sunway University (Malaysia); Chiang Mai Rajabhat University (Thailand); Universitas Muhammadiyah Prof Dr Hamka (Indonesia).

## 4.3 Motivation

Previous research on VSM has shown that while it is no longer a new activity, it has not become as widespread as PSM. As such, learning from the experiences of the case study HEIs that have implemented VSM illustrates the different motivations for HEIs to create VSM experiences.

### 4.3.1 Having an institutional champion

Five of the cases reported not receiving any pressure from institutional leadership to implement VSM during the pandemic. On the contrary, the genuine interest of someone who would become the institutional champion (usually a faculty member or someone in the International Office) and their willingness to try it was what started most of the VSM experiences.

Moreover, when the current strategy of an HEI is based on PSM and many faculty members remain unaware or unconvinced of the possibilities of VSM, it becomes hard to introduce it at that HEI.

### 4.3.2 Opportunity presented by the pandemic

The need, and efforts made to implement meaningful and timely responses to the COVID-19 crisis is a key finding from the interviews. Instead of suspending mobility programs, the cases studied in this report saw an opportunity to adapt to a virtual environment and ensure continuity. These cases therefore rank alongside other higher education institutions that had implemented VSM even before the pandemic.

Eight of the ten institutional case studies listed the Covid-19 pandemic as the key reason for introducing VSM. In these cases, it was either something they did before as PSM, which was then adapted to a virtual environment or because virtual learning suddenly became the new normal and VSM seemed more straightforward and natural than before. Three of the four alliances (*APRU*, *HUC* and *P2A ASEAN*) started different VSM programs also as a result of the pandemic.

Having decided to try VSM during the pandemic, many of the HEIs realized that this could have a very positive impact on the number and type of students who could participate in mobility. For example, many students at both partner institutions in the *Women's Leadership* program would not otherwise have participated, given that they did not have the financial leverage to undertake PSM.

### 4.3.3 Part of a longer-term strategy

Two of the institutional case studies (*Engineering* and *Climate Change*) were pre-existing VSM activities. *Engineering* had started in 2015 and *Climate Change* had been operational since 2002. Both experiences were slightly modified because of the pandemic. For example, prior to the pandemic, students had had synchronous activities in the classroom, connecting to partner universities via videoconferencing. During the pandemic, each student logged in from their own devices. For the *CIVIS* Alliance, VSM had been part of their internationalization strategy from the beginning of the project in 2018; the pandemic accelerated its implementation.

### 4.3.4 Willingness to experiment

The COVID-19 pandemic forced everyone to adapt to a new context, but not all took the opportunity to attempt something new, something different. However, all the case studies in this report shared the willingness to experiment and to provide a mobility experience for their students during these times. For example, *Sustainable Development* was normally a physical mobility experience. With the advent of the pandemic, there was no expectation that the Winter School would continue in a virtual format. However, the person responsible for the Winter School wished to continue with the project and consulted with their supervisors who literally responded: "give it a try".

In the case of the *APRU* alliance, the Vice-Chancellor of the Chinese University of Hong Kong, who

serves as the Vice-Chair of the Presidential Steering Committee, came up with the idea and took advantage of the pre-existing APRU network to introduce the concept to the rest of the partners, who readily cooperated.

However, in attempting to expand these VSM opportunities, interviewees reported encountering roadblocks. Not all faculty members were willing to innovate or to experiment. For some, going virtual meant working overtime, an exhausting endeavor. A common observation also reported during the interviews was the resistance from faculty who are used to 'traditional' models of in-person teaching.

## 4.4 Partnerships

Almost all the case studies highlighted how critical it was to find the right partner or partnership to ensure a successful VSM experience. In all cases, the partnership (whether formal or informal) had been initiated before the start of the VSM program. An enabling factor for VSM was a pre-existing internationalization strategy to reach out to other international HEIs.

### 4.4.1 Building on previous relationships

Designing and implementing VSM was new for most case studies, but it was easier to take the first leap with a partner they already knew. These previous relationships provided the necessary trust and understanding needed to take a partnership forward into VSM. In 8 out of 10 institutional cases, the VSM partnership was developed among colleagues who knew each other personally and professionally (e.g., previously done joint research or met through Erasmus Teaching Mobility Program); or among HEIs that had a formal memorandum of understanding (MoU) covering inter-institutional cooperation. All four alliances were created well before the onset of the pandemic, making it relatively easy to transition to VSM since MoUs already existed. Given that VSM is new terrain for many HEIs, before entering into

full-scale inter-institutional partnerships, a pilot project to evaluate the organizational, technical, and pedagogical aspects should be conducted before integrating it into mainstream education.

### 4.4.2 Learning from partners

International alliances can also play a key role in promoting and implementing VSM experiences. Faculty members at both HUC and CIVIS have found alliances to be a place to learn about VSM and to co-create new experiences for their students. For example, HUC provided training in COIL (a form of VSM) within their network, and CIVIS delivered six workshops on different aspects of virtual mobility. Both alliances created a dedicated team/task force to develop different forms of VSM.

### 4.4.3 Partnerships beyond HEIs

While most partnerships were among institutions, one involved a non-institutional partner. Durham College (*Digital Storytelling*) partnered with an NGO called SOS that has partnerships with local schools and organizations in Guatemala, to develop the VSM experience. The NGO was able to broker a relationship with youth in Guatemala, who then worked with students at Durham College. For the *AMRE*, the clients for whom students worked during the virtual internships included large corporations based in the USA and internationally.

Several of the cases used the opportunity of the virtual format to invite guest speakers as part of the experience. These may not have been done in the framework of formal partnerships but offered an opportunity to at least develop the HEI's informal networks and partnerships with other agencies such as government and the private sector.

### 4.4.4 Intra-institutional partnerships

Depending on the scope or type of the VSM experience, faculty members and the office in charge of the VSM experience worked together to build



the internal partnerships and support needed to provide a better experience for students. For example, UNALM's International Office partnered with the University's Language Center to provide English lessons and with the University's Business Incubator to provide an immersion course on entrepreneurship to students as part of the *Innovation* course. For the *Engineering* course, the IT department at KU Leuven offered support to students to access library resources at Penn State.

#### 4.4.5 Formalizing partnerships

Fifty percent of the institutional case studies were formalized or had an existing formal MoU between institutions. However, others reported that it was easier to work without an MoU and keep the nature of the collaboration flexible. In the case of the five-partner *Climate Change*, this was preferable since this allows university partners to freely move in and out of the collaboration. Flexibility was mentioned as an important value especially in those cases where VSM was introduced due to the pandemic, requiring HEIs to take advantage of opportunities and to move quickly.

However, finding partners and matching them can be very time-consuming. To overcome this, HUC is working on a matchmaking platform to make it easier for interested faculty to find a partner and streamline the process. For APRU, HEIs communicate to the lead HEI the courses they can offer and then students choose the courses they wish to pursue and the universities of choice.

### 4.5 Funding

The case studies confirmed that VSM is considerably cheaper in financial terms to operate than PSM or HSM, although it does bear a cost in terms of extra time on the part of faculty and staff. Where costs were incurred, most HEIs said these were minimal, although in one case (*AMRE*), the College of Wooster incurred additional costs to support students who were from remote areas.

#### 4.5.1 Operating at no extra cost

At least two of the case studies reported that the VSM experience had incurred no additional costs. Faculty members were paid their regular salary, and there were no other expenses.

This meant that no costs were passed on to students: it was either offered as an additional activity provided free of charge or was already part of the students' study plan and covered in their tuition. Even in cases where HEIs may have incurred costs to organize the VSM activity, 12 out of 14 of the case studies did not pass on any charges to students. The external funding received in four cases was sometimes used to cover students' costs.

#### 4.5.2 Faculty compensation

In some of the case study HEIs, interview respondents referred to costs solely in the sense of faculty members' time. This "invisible cost" was often more apparent when HEIs were trying out VSM for the first time because faculty members spent more time designing the VSM experience than regular classes or courses.

In two cases (*Sustainable Development* and *Entrepreneurship*), students had to pay to participate in the VSM program. The cost was minimal, designed only to cover faculty members' time, and not meant to make a profit. For the students of both HEIs the VSM experience was extracurricular, meaning the faculty involved carried on these activities beyond their regular work.

On the other hand, *Climate Change* brings another perspective: it was considered to potentially involve less work than a regular class because there are five HEIs responsible for the course. CIVIS' approach included an open call for Virtual Mobility programs (includes open courses, micro-programs, summer/winter schools, and boot camps), and within the selected programs, CIVIS can provide incentives depending on the time spent outside of "regular service hours."

### 4.5.3 Material design and delivery costs

Several of the HEIs confirmed costs beyond faculty time/compensation. These costs included: design of materials, recording studio, cameras, project leaders and administrative staff, software, and licenses (messaging application, translation tool), intercultural measurement tool, English lessons, and certificates, among others.

For *AMRE*, Wooster paid for accommodation and internet costs for students from Ashesi who lived in remote areas and had to temporarily stay in urban areas in order to do the VSM program because of better electricity supply and internet connectivity. As the VSM program was an internship experience, these costs were passed on to the companies where students were working. Even with these additional costs, VSM was cheaper than any previous format of PSM since costs such as traveling and accommodation were avoided, especially in the pandemic period where extra costs such as for quarantining and PCR tests are included.

### 4.5.4 Financial support for VSM

Four of the 10 institutional case studies reported that funding to create the VSM program had come from an external organization. The funding enabled partners to pay for costs associated with the program, for example, renting a recording studio, designing materials, compensating faculty members or administrative staff, and a project leader for both partners.

Funders of the VSM programs include NGOs and governments:

- The Stevens Initiative (part of the non-profit Aspen Institute), a public-private partnership based in the USA, supported *Women's Leadership*.
- The Association of Commonwealth Universities Medical Student Virtual Mobility Grant supported *Global Health*

- The Ministry of Education of Peru supported UNALM students in *Innovation*
- The Government of Canada Outbound Student Mobility Program supported *Digital Storytelling*

This is not an exhaustive list of funders of VSM and there are other organizations that have used the pandemic as an opportunity to provide financial support for virtual forms of mobility.

## 4.6 Student selection

Over 60% of students found out about the VSM experience through their home HEI. Only in one case was the recruitment largely made based on recommendation, since in this case, it was not an open call for students to participate but instead targeted invitations to pre-selected students.

### 4.6.1 Student selection led by the HEI

Most HEIs from the Global South had requirements or a selection process to determine which students should be part of the VSM experience. For example, HEIs like H2UC (*Women's Leadership*), UNALM (*Innovation*), and EAFIT (*Entrepreneurship*), and alliance cases like P2A ASEAN had a certain level of English as a requirement. In the case of EAFIT, students were also interviewed to test their English level.

Another requirement used by HEIs such as H2UC (*Women's Leadership*), UNALM (*Innovation*), Manipal Academy of Higher Education (*Global Health*) and Ashesi University (*AMRE*) was good academic standing. For example, the requirement could be for students to be in the top 20% of their class. At least two HEIs selected students by targeted invitation, in one case using this as a way of rewarding students' achievements by inviting them to participate in the VSM program.

Another variable considered by some HEIs for choosing students is if they are in the final years of their study plan or not. Interviewees mentioned that students in their final years might be more likely to make the most of this experience. One

## Figure 6: Identifying VSM opportunities

### HOW DID YOU COME ACROSS THIS VSM EXPERIENCE?

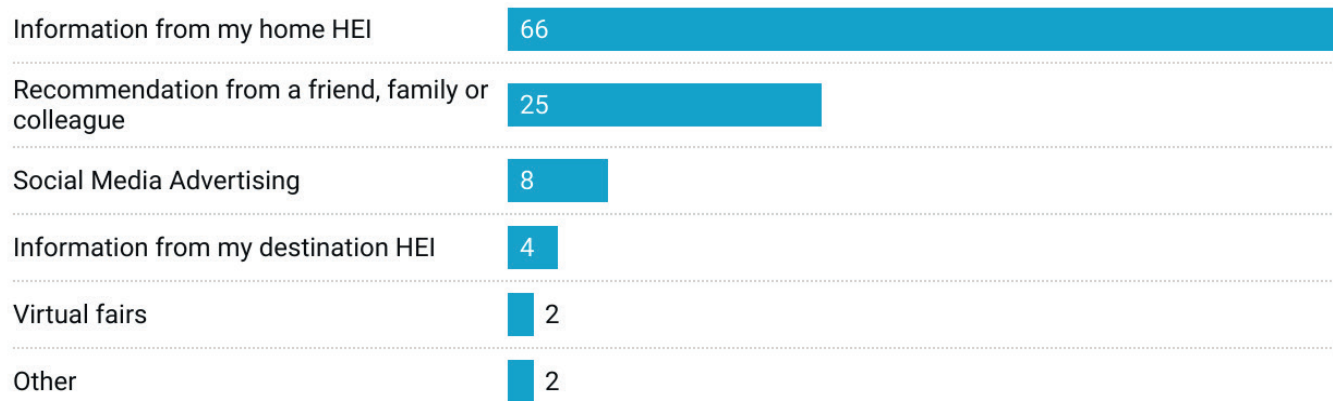


Chart: UNESCO IESALC • Source: UNESCO IESALC VSM student survey • Created with Datawrapper

Available to download at <https://datawrapper.dwcdn.net/MFRfJ/1/>

HEI (Ashesi University, *AMRE*) further conducted internal interviews for students with the final decision made by faculty members.

The only example of a selection process outside of the Global South is Durham College in Canada (*Digital Storytelling*). This is because more students are interested than there are spaces for. The course has an academic requirement, but the main criteria for choosing students was their passion and openness to learning. They also seek out students who are attentive to issues of power and equity.

#### 4.6.2 Optional participation

In other cases, students could opt in to participate in the VSM program. In the APRU alliance, students have the option to select from a number of courses offered by different universities in the partnership. However, for P2A ASEAN, another alliance, the university chairing the alliance for the respective year decided which courses to offer for the year.

#### 4.6.3 Mandatory VSM

In two cases (*Engineering* and *Intercultural Learning*), the VSM course was mandatory for students

at one of the partner HEIs (KU Leuven and University of Tallinn, respectively), so students were required to participate. In the case of *Engineering*, although the course in itself was an elective course under the Innovation and Entrepreneurship program, once chosen by students, they had to participate in the VSM course offered within the course.

#### 4.6.4 Incentives to participate

While some HEIs reported that they had reasonable or high levels of interest from students, at least one HEI had to convince students to participate in the VSM experience. Students were not as enthusiastic as with PSM opportunities. One successful strategy was to promote the VSM experience through students' magazines and student leaders to recommend it to their classmates.

To incentivize participation in VSM experiences, both HUC and CIVIS have created online credentials or certificates that students can gain after participating in these experiences: digital credentials in the case of HUC and a CIVIS passport for that alliance. P2A ASEAN also offers a program certificate after completing the Business and Entrepreneurship course.

## 4.7 Course design and delivery

The main differences between the design of the case studies were their length (ranging from 1.5 weeks to two semesters long) and topics (women's leadership, entrepreneurship, storytelling, engineering, climate change, among others). On the other hand, there were several similarities in the course design and delivery.

### 4.7.1 Student engagement

Most of the case studies' aims included developing students' global/cross-cultural competencies. To do so, most VSM experiences were designed so that students had to work in mixed teams. One interviewee even said that making the students work in groups forces them to interact with international students, which might not necessarily be the case when they are on campus. Many of our case studies reported being nervous or afraid that cultural or social activities would not work through the screen. However, most reported that they were happily surprised that they did, they increased students' satisfaction with the experience, and created a better environment.

In some cases, the program was designed to include dedicated moments for cultural exchange. For example, in *Entrepreneurship*, each HEI sent students of the other HEI packages with the tools for a cross-cultural sharing moment (e.g., EAFIT sent Swiss students the ingredients to make themselves Colombian coffee and FHNW sent Swiss chocolate and raclettes to EAFIT's students). As the student survey results show, students benefited from and enjoyed this cross-cultural component and would have liked more interaction with their fellow students.

Some students feel overwhelmed with online participation and fail to concentrate throughout the course, which may lead to dropouts; some do not gain the skills that the programs intended them to gain, due to lack of interest. It is important to design VSM programs in a way that maximizes student participation so that they can gain the most from the program. It is therefore

important to continuously evaluate courses by testing them and identifying their strengths and weaknesses.

### 4.7.2 Virtual pedagogies

Most case studies stated the use of both asynchronous and synchronous activities. Having asynchronous activities gives students more flexibility when planning their workload. This was also recognized in the student survey (see next section), with respondents choosing "flexibility in planning workload" as the best part of their VSM experience.

Other advantages of VSM for faculty included having the possibility to go back (have the lessons stored) and use recorded materials in other ways. For some HEIs, this meant that professors are now able to focus more on discussions rather than lectures, which, as one interviewee noted, means that "the walls of a classroom have widened and the very use of time and space in class have changed".

Despite the experiences obtained by faculty in the case studies, as a whole, HE teachers are not yet as well trained or accustomed to virtual learning as with in-person teaching. This can produce some challenges for them: difficulty connecting with students, not knowing if they are interested or distracted, more challenging to read students and adjust accordingly.

Interviewees said it is important to consider another challenge of technology: "screen fatigue". Students and faculty are at their screens for a long time, causing many to lack interest in anything virtual. For VSM to be effective, it is critical to adjust pedagogies – and support teachers in doing so – to maintain student engagement.

### 4.7.3 Program length

For HEIs that had previously implemented PSM programs, this meant adapting the way the course was delivered and making the most out of virtual learning. For example, *Sustainable Devel-*

opment would typically last two weeks in Santa Fe (Argentina); however, in its virtual version, the Winter School lasts four weeks so as to use virtual synchronous and asynchronous activities more effectively and prevent students' screen-fatigue. Similarly, *Entrepreneurship* learned from their first experience that it is better not to cram everything into one week and a half and that it would be better to give students more time.

#### 4.7.4 Classroom size

Most VSM experiences had fewer than 40 students, allowing faculty and staff to support them in a more personalized way. *Climate Change* is the exception, with an average of 110 students in lectures. Nonetheless, students were put into smaller groups where they could interact and solve problems, thus gaining teamwork and multicultural skills. The respondents noted that online breakout rooms have made it easier for students to interact.

#### 4.7.5 Language of instruction

12 of the 14 cases used English as their common language. The only two exceptions are *Sustainable Development* (in Spanish) and *Intercultural Learning* (in German). As previously noted, in some HEIs, a certain English level was required for students to participate in the VSM experience. Many HEIs already teach fully or partly in the medium of English, even if not located in a majority English-speaking country, and therefore expect that students participating in VSM would already be proficient in English. In other cases, faculty members recognized it was an excellent opportunity for their students to practice their English skills, although others noted that this may have been a reason why students dropped out of the experience.

Although HUC widely used English in their programs, they also used Spanish depending on the program and collaboration. For example, the program "Pathways to Prosperity" was 100% in Spanish. Also, the HUC-COIL program language was

dependent on the collaboration; if the collaboration was between two Spanish-speaking professors, they used Spanish instead of English.

*Digital Storytelling* took a different approach: instead of requiring students to have proficiency in Spanish to interact fully with their Guatemalan counterparts, they used a messaging translation app to help with communications problems. CIVIS also reported testing similar tools as well as offering courses in their partners' different working languages.

#### 4.7.6 Feedback loops

Most VSM introduced opportunities for students to provide feedback both during and after the course surveys and were in constant communication with their partner faculty members to identify challenges and opportunities to improve their VSM experience. Several examples were provided by respondents of ways that feedback had been taken on board and changes made, either part-way through the course or ahead of its next iteration.

For the P2A alliance, students were asked to record videos detailing their experiences from the VSM program. This provided another feedback loop regarding the different levels of interest per program, with more students signing up for some courses and minimal interest in other courses. Registration provides participating universities with a sense of what students are looking for so that in subsequent semesters, the course offering could change to meet student needs.

### 4.8 Technology and connectivity

Effective digital cooperation is seen as instrumental for a desirable future and the SDGs. Global connectivity is seen as a foundation to ensure the continuation of critical services and enable digital literacy and social inclusion (United Nations, 2020). It goes without saying that technology is a vital part of any VSM experience.

Most cases used three or four types of platforms or software: a learning management system (LMS) for asynchronous activities, a videoconferencing platform for synchronous activities, online free tools for teaching, and platforms for student communication.

#### 4.8.1 Learning Management System (LMS)

In some cases, each HEI used its own LMS and in other partnerships, all students used one HEI's LMS. This is not a minor decision: some HEIs are stricter with cybersecurity than others and might not be willing for their students to use another platform, insisting that the other institution uses its own. In that case, new usernames and logins must be issued for all students participating in the same LMS.

To improve the user experience, *CIVIS* has developed its own Moodle platform to solve many of the LMS problems mentioned before. However, the intention of *CIVIS* is not to force everyone to use its platform but rather to give solutions; in some cases, the solution is the common platform, but in others, it is redirecting students and helping them in the logins to access another platform.

Some LMS mentioned by case study respondents were D2L, Moodle, Canvas and Blackboard.

For *Intercultural Learning*, no LMS was deployed; only a cloud storage folder (via Google Drive) to upload documents.

#### 4.8.2 Videoconferencing platform

The most mentioned videoconferencing platforms used for synchronous activities were Zoom and Microsoft Teams.

#### 4.8.3 Online teaching tools and resources

Most cases either used the platforms they had already purchased for online learning or used free online platforms for their VSM experiences.

Free platforms included polling/quiz apps such as Mentimeter and Kahoot and collaborative pinboards such as Padlet.

In *Engineering*, KU Leuven students were given free access to Penn State University library and information resources. In *Digital Storytelling*, students at Durham College were given free access to Adobe Suite but had to use alternative (free) software to create podcasts with their partners in Guatemala.

#### 4.8.4 Platforms for student communication

Most case studies allowed students to communicate with each other using the platform they were most comfortable with, such as WhatsApp, Skype, and Facebook. In a few cases, the HEI chose a specific application that was deemed mandatory for participating students. For example, one HEI created a WhatsApp group for all participants and another used Slack for communication.

#### 4.8.5 Internet access

Although VSM expands access to mobility to students worldwide because of its cost, it is also true that VSM requires students to have proper internet access and devices to make the most of it. This is especially important for students in the Global South, where inequalities abound in access to the internet. On that note, the governments of Morocco and Sri Lanka supported students in *Women's Leadership* and *Intercultural Learning* by giving mobile data packages to students (Morocco) and free access to a videoconferencing app (Sri Lanka). In the case of Durham College, the partner NGO paid for an office in the community that had internet so Guatemalan students could participate. As previously noted, the College of Wooster provided Ashesi University students from disadvantaged circumstances with accommodation in urban centers and mobile data packages to enable their participation in the program.

Despite the additional efforts, at least two students in *Intercultural Learning* had to drop out because they lived in hilly areas with limited internet connection. At UNALM (*Innovation*), students outside of the capital also had choppy connections. Moreover, students selected “problems with internet” as the most challenging aspect of their VSM experience, suggesting that even those in areas with relatively good internet still faced connection issues.

## 4.9 Administrative arrangements

Some of the biggest challenges to the successful implementation of VSM lay in the detail of the administrative arrangements and synchronizing these between partners.

### 4.9.1 Academic calendars

Matching academic calendars, especially between the northern and southern hemispheres, which often run different academic years, can be very challenging. HEIs, even in the same country, may vary when they start and finish classes, making it difficult for VSM experiences to be semester-long or to coincide with winter/summer breaks.

Registration of students can also be very difficult. For example, within *CIVIS*, there are three academic calendars that are not that different. Nonetheless, it was an issue for them to register students at the University of Bucharest (where the semester starts in early October) in VSM experiences before they even started classes and could be considered “students”. To overcome this challenge, *CIVIS* uses different registration deadlines to overcome the registration problem, making it easier for students to register for the VSM experiences of their liking.

For *Engineering*, a major issue relating to differences in academic calendars was that students at the US HEI would be ahead with the course by the

time students in the Belgian HEI started. Similarly, for *Climate Change*, the University of Hawaii and National University of Samoa start fall semester in late August or early September, while Japanese universities start in October, which means that their academic calendars do not match for the entire semester.

### 4.9.2 Distribution of work

Most of the cases involved two HEIs that distributed the course work among themselves, and respondents did not report any issues in how the work had been distributed. However, there are cases in which one university offered the VSM experience to students from other HEIs i.e., the distribution of work was in the hands of only one of the partners. For *CIVIS*, a minimum of three partners is required to participate in the Virtual Mobility Call. The *Climate Change* course involves faculty from the partner universities working together to develop the course syllabus, identify guest lecturers and moderate individual classes. An effort is made to distribute the work across the partner universities and as such this virtual component potentially reduces the workload compared with regular face to face courses.

### 4.9.3 Time zone differences

Most case studies reported not having any issues with time zone differences; three of the alliances (P2A ASEAN, *CIVIS* and HUC) are situated in the same global region where there are no or very little time zone differences. The most significant time zone difference was between Samoa and Hawaii (*Climate Change*) of 23 hours, but it was still possible to schedule live classes on Friday at 1pm in Japan and in Thursday evening for students in Hawaii. In most cases, finding the right time to meet for live classes was a challenge but one that could be resolved.

Other VSM experiences reported having some difficulties: for example, in *Entrepreneurship*, stu-

dents in Switzerland were finishing classes by 10 pm and were exhausted by the end. Many of the HEIs have already made modifications to the hours based on early experiences.

Even though there was an effort to overcome this challenge, students selected “time zone differences” as the top-2 challenge in their VSM experience. Whilst this was seen by students as a challenge, some faculty members saw it as an opportunity for students to gain skills on collaborating on which time would work well for every group member (teamworking skills) and how to work virtually in international organizations which may be located in a different time zone.

#### 4.9.4 Credit recognition

Credit recognition is a key component of most mobility programs. Among the case studies, the approach given by most of the credit-bearing experiences was for it to be managed by each HEI, following their frameworks. So, for example, a VSM experience between two HEIs could mean  $x$  number of credits in one HEI and  $y$  number of credits for the other. For *CIVIS*, this was a matter of discussion, but parties agreed that the same certificate of attendance with the same number of credits would be given.

Although most of the cases demonstrate that being flexible has helped overcome most VSM challenges, interviewees have also shared that for VSM to go to the next level, it would benefit from having formal systems and processes in place, as well as dedicated staff and funding to support faculty in the matchmaking and training process. One interviewee explained it clearly by saying that they worked as a ‘start-up’, but now they needed to scale up operations.

## 5 Students’ experiences of Virtual Student Mobility

In addition to the interviews with faculty members and International Office staff, data was also collected through an online student survey. The survey was developed to learn directly from the experiences of students who had participated in one of the institutional VSM experiences. The survey was available in English and Spanish and took approximately 10 to 12 minutes to complete. It covered questions about the student’s VSM experience, opinion on VSM, and basic demographic information. The survey was open from July to December 2021 and received 107 valid responses from 17 HEIs in 12 countries.

The majority of students who completed the survey were:

- Aged between 18-25 years old (83%) – the full age range of participants was 18 to older than 46
- Identified as females (64%)
- Studying full-time (87%)
- Without caring responsibilities (for children, parents, etc.) (73%)
- Not working (64%)

39% of the respondents met all the aforementioned characteristics. Almost 75% of the respondents were doing VSM for the first time.

### 5.1 Motivation to participate

The overwhelming majority of students who participated in VSM programs did so because they thought that the experience would be academically challenging/enriching (77%). The next most popular option was the opportunity to obtain international work experience (38%). This illustrates that one way to convince students to participate in VSM is to demonstrate the academic and international work opportunities.

Just 22 students (21%) answered that they did VSM because they could not travel due to the pandemic. This could point to the fact that VSM is not a last resort when PSM is not available but is gaining popularity as a credible alternative in gaining academic or work experience.



Given that much of the recent reporting on VSM has framed its advantages in these terms (cost-effectiveness and more environmentally friendly), it was very surprising that only a few students said that they chose VSM because it was more financially accessible (13%) or environmentally sustainable option (12%). This could be because most programs were fully sponsored or were part of the overall tuition fee, therefore minimizing or removing the financial impact on students.

## 5.2 Flexibility and convenience

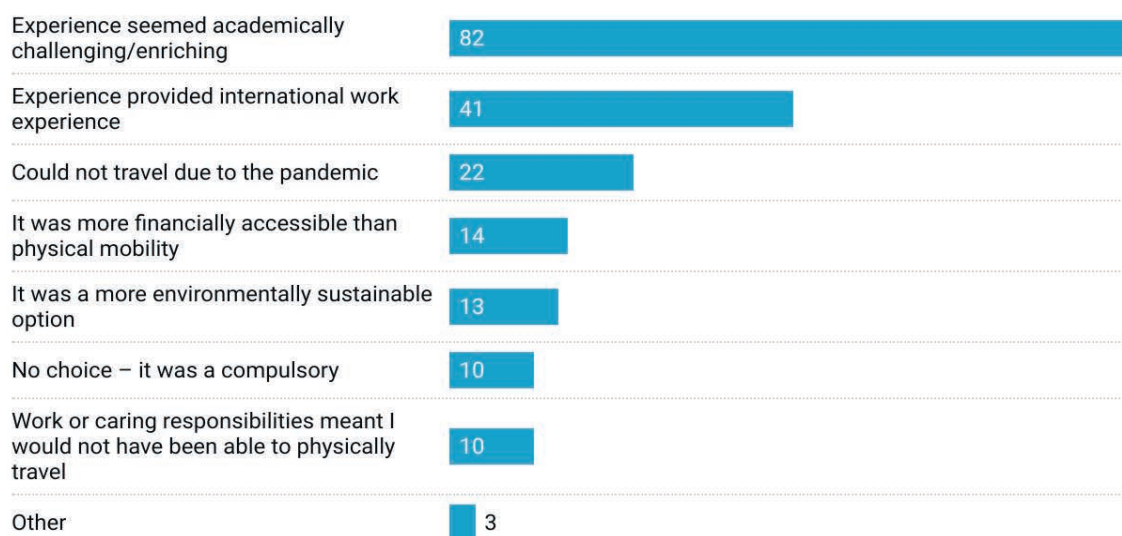
In the interviews, faculty members and International Office staff had indicated their understanding that students liked the VSM experience. Interviewees said that students found it a “breath

of fresh air during the pandemic”, the “best class they have ever had”, they “were really grateful” and “are looking for other opportunities like this”. One interviewee related that “I knew they had had a transformative experience”. Evidence from the student survey backs up this assertion: 56% of students said they were very satisfied or satisfied with their experience.

When asked to rank the top three aspects of their experience, the clear preference among students was the flexibility in planning their workload that VSM affords them. This was selected by 70% of respondents as their top one, two or three. Out of the 35 students that selected flexibility in planning the workload as their top one best part, 31%

**Figure 7: Motivation to participate in VSM**

### WHY DID YOU TAKE PART IN THIS VSM EXPERIENCE?



Students were allowed to check more than one option. Values represent the number of answers received per option.

Chart: UNESCO IESALC • Source: UNESCO IESALC VSM student survey • Created with Datawrapper

Available to download at <https://datawrapper.dwcdn.net/1hUME/1/>

**Figure 8: Student satisfaction with VSM**

### HOW SATISFIED ARE YOU WITH YOUR VSM EXPERIENCE?



Chart: UNESCO IESALC • Source: UNESCO IESALC VSM student survey • Created with Datawrapper

Available to download at <https://datawrapper.dwcdn.net/tu9Ub/1/>

## Figure 9: Best part of students' VSM experience

### WHAT WAS THE BEST PART OF YOUR VSM EXPERIENCE?

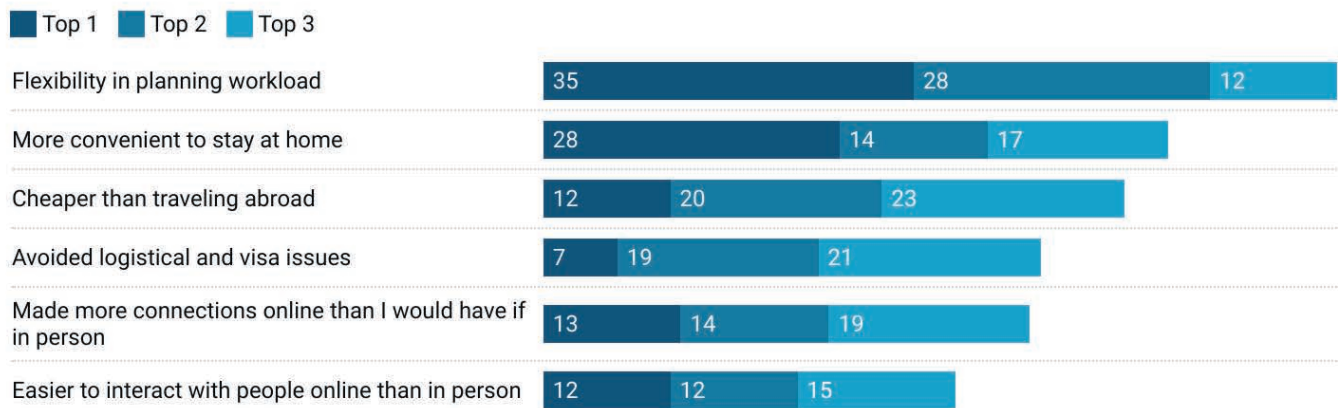


Chart: UNESCO IESALC • Source: UNESCO IESALC VSM student survey • Created with Datawrapper

Available to download at <https://datawrapper.dwcdn.net/L9p10/1/>

also had caring responsibilities; 31% were also working part-time or full-time; 17% were part-time students; and 22% shared more than one characteristic. This is a clear indication that VSM can open access to groups of students who are very under-represented in PSM.

The second preference, which is related to the most popular option, is the greater convenience of being able to stay at home. This was selected by 28 students as their top one answer, representing 55% of all respondents. 51% of respondents said that the lower cost of VSM compared to traveling abroad was their top one, two or three best parts about the experience. Thus, even though fewer than expected students chose to participate in VSM for financial reasons, this advantage may have become more obvious during their studies.

### 5.3 Internet connection issues and time zone differences

When asked about the most challenging aspects of their VSM experience, a significant number of students (68%) reported having problems with the internet connection. With respondents based across 12 countries (Argentina, Canada, Colombia, Estonia, Ghana, Japan, Morocco, Peru, Samoa, Sri Lanka, Switzerland, USA), this suggests that connectivity

issues are widespread, affecting students across global contexts. Out of the 40 students that selected “problems with internet connection” as the most challenging part of their VSM experience, 30% of them were working and 30% had caring responsibilities full-time or part-time, with 13% sharing both characteristics.

The second main challenge reported by students was differences in time zones. The VSM cases did indeed stretch across multiple time zones – 23 hours was the largest – making this a relevant consideration when planning VSM. This finding also connects to the importance of flexibility and convenience in VSM, as reported by students.

Following these two logistical challenges, an almost identical number of students listed academic challenges as the next most important. These were related to getting timely and/or quality feedback and teaching and/or supervision being of lower quality than in-person (selected 48 and 47 times, respectively). This highlights how important it is not to forego academic quality when teaching online.

Not moving to another country has a significant number of benefits, but during the interviews, it was the most mentioned disadvantage, with one respondent noting that “nothing compares or

**Figure 10: Most challenging part of students' VSM experience**

**WHAT WAS THE MOST CHANGELLING PART OF YOUR VSM EXPERIENCE?**

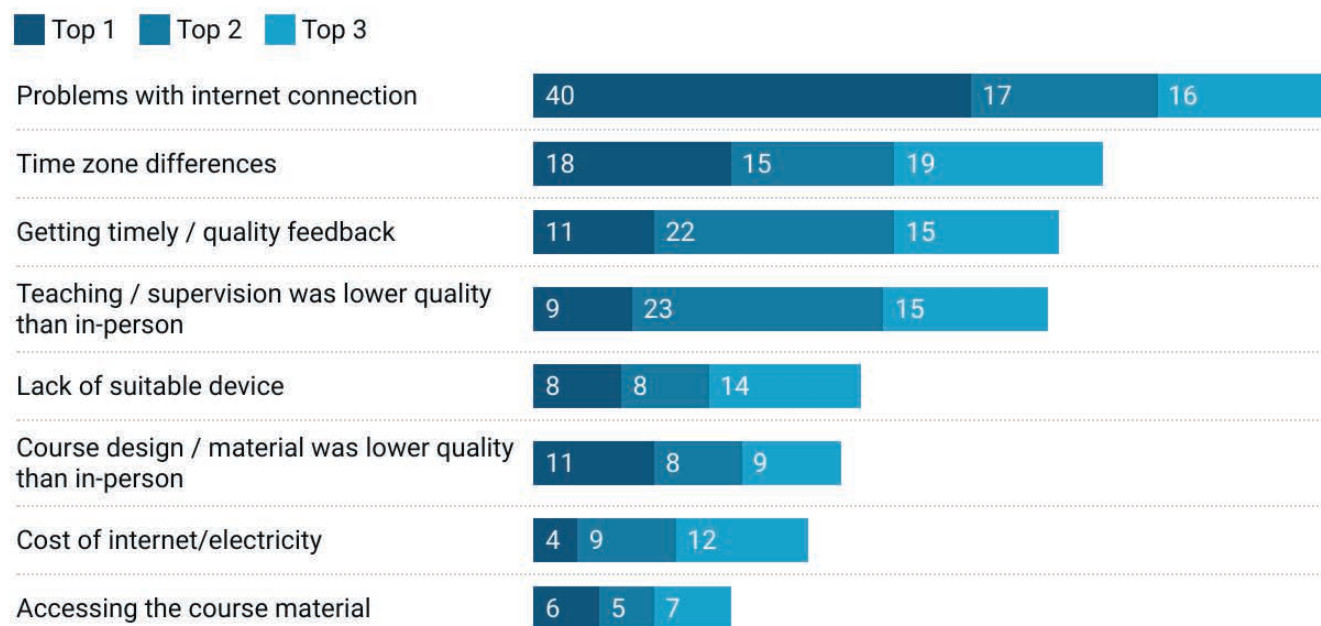


Chart: UNESCO IESALC • Source: UNESCO IESALC VSM student survey • Created with Datawrapper

Available to download at <https://datawrapper.dwcdn.net/eHSUW/1/>

replaces the human element of physical mobility". According to one interviewee, going abroad for students means more than just having a cross-cultural experience; for many of their students, it means their first time out of their country and their first time living away from home, independent of their parents.

**5.4 Most students would do VSM again**

Almost 75% of students said they would do VSM again if they had the opportunity. When asked to explain why they would do it again, their comments included:

- "It's a great opportunity to learn and meet people from all over the world".
- "I developed my knowledge with international information and interactions".
- "I think it is a very nice opportunity to enrich the curriculum, learn and avoid traveling".
- "I consider it is a good way to improve our skills from the comfort of our home".

- "It was a delightful experience. The [other] students were very enthusiastic, and it made my day better".

- "It is a priceless opportunity for me".

These results are consistent with the results of the question on "how likely are you to recommend VSM to others?": 62% of survey respondents said it was likely or very likely for them to recommend VSM to others. These are very positive numbers and quotes, considering that almost 3 in every 4 students were unfamiliar with VSM prior to this experience.

When comparing the reasons why students chose their VSM experience and the reasons why they would do it again if they had the chance, academic enrichment came out as one of the top answers in both instances. However, for those students that would do VSM again if they had the chance, the cultural and convenience aspect of the experience became relevant. On the other hand, contrary to the reasons why students chose their

VSM experience, among the reasons why they would do it again, only one student mentioned cost, and none mentioned sustainability.

When students were asked what would have improved their VSM experience, 37% of the answers were requests from students for more interaction with teachers, students, or both. As one student noted, they would have liked “more time to discuss different topics with the students from the other University”; another commented that they would have preferred to have the “ability to connect with the other students outside of in-class discussions”.

This was followed by 20% of answers that either said nothing had to be changed or that students did not know what to change. However, 14% of students did mention that in-person mobility would have made it better, with one student saying that “If it was in person, it would have made the exchange more enriching as well as interesting”.

While the appetite to participate in VSM was high among students and staff, just over 8% of students said they would prefer to study fully virtually if travel and health conditions permitted a future mobility experience. A little more than 36% expressed a preference for HSM i.e., mixing both virtual and physical mobility, but just over 55% of students said they would prefer PSM.

## 6 Recommendations for integrating Virtual Student Mobility

Based on the experiences of faculty members and International Office staff, and the students who completed the student survey, this chapter offers recommendations for students; for faculty and International Office staff who develop and implement VSM; for institutional leaders and senior decision-makers in HEIs; for governments and quality assurance agencies that regulate and fund higher education; and for international organizations that consider student mobility in cross-national perspective.

The recommendations, which are summarized in *Table 4*, are designed to support these various groups to integrate VSM as an additional form of student mobility that can play a critical role in reshaping higher education internationalization in the post-pandemic landscape. While the recommendations are tailored to the needs and capacities of these different groups, they share five commonalities:

- 1. Adopt a ‘VSM mindset’** that is open to the immense possibilities VSM can add to international education. At the same time, being prepared to embrace the challenges and relative lack of information on VSM in order to improve and integrate it.
- 2. Keep equity at the center** of the design, delivery and purpose of VSM as a tool through which to democratize access to student mobility. Specific attention must be paid to enabling student participation and developing equitable international partnerships.
- 3. Provide dedicated funding** to develop VSM. This can be done on multiple levels including funding students (focusing on under-represented groups in student mobility), faculty/staff, and at institutional partnership level.

**4. Accelerate digitalization** by providing better access to the internet, more devices and up-to-date software as well as supporting and embedding teaching and training in digital literacy.

**5. Ensure credit transferability and official recognition** of VSM to facilitate inter-institutional partnerships and promote international mobility.

As most **students** remain unaware of VSM, recommendations for this group focus on adopting an inquiring and open mindset in relation to VSM. This includes taking active measures to seek out information about VSM and being willing to try VSM, whether instead of PSM or as an additional form of mobility that offers new perspectives on international exchange. Once enrolled in VSM programs, students are encouraged to be flexible, interested and engaged with the opportunity and not to shy away from providing feedback that could improve the offering. Students may need to learn how to use new software and undergo training in digital literacy in order to maximize their experience of VSM. Finally, students are encouraged to advocate to their HEI for financial support or zero cost VSM opportunities. This could be done at departmental/faculty level or through the students' union or equivalent HEI-wide structure.

Many of the recommendations revolve around improving the provision of VSM and are targeted at **faculty and International Office staff**. Raising awareness about VSM e.g., through presentations, events, HEI websites and social media, and highlighting the cost and environmental benefits of VSM in communications with students will increase visibility and take-up of VSM. Faculty and staff should use their networks and positions to broker connections for VSM partnerships; this does not only have

to be with other HEIs but could also include NGOs, international organizations, and governments. For those new to developing VSM programs, recommendations include starting with a topic that will be of interest to many students – an 'easy win' – working with a trusted partner and understanding that VSM partnerships, especially in their first iteration, need to be agile and may not require an MoU. Faculty and staff should be prepared to invest time in developing the VSM experience, especially the first time it is offered. Time should be dedicated to relationship management with partners and lines of communication should be kept open. Furthermore, it is important to think through equity considerations in partnerships, and ensuring all partners have equal influence on the VSM program.

Student selection procedures for VSM programs should be carefully considered: selection based on academics alone may not widen participation. In terms of course design and delivery, faculty and staff are advised not to try replicating a PSM experience. However, the adaptation of existing courses is possible, with suitable adjustments for the virtual format. Synchronous and asynchronous activities should be combined; 6-7 hours of time difference seems to be the limit for synchronous meetups. It is useful add cultural and/or social activities to support student engagement, even if the VSM is primarily academic. Promoting interaction can also be done with students working in mixed teams. Faculty and staff should be open to feedback, introducing feedback loops and potentially making changes, even mid-program. With regards to technology, it is advisable to work with the IT department and the VSM partner on technology choices, including selecting an LMS and ensuring that access to the LMS is streamlined for all students. Faculty and staff should be prepared to undergo train-

ing in digital literacy. VSM does not have to last the whole semester and does not have to be the same model for all partner HEIs (e.g., credit vs non-credit-bearing).

For **institutional leaders**, demonstrating support for VSM is crucial. This can be done concretely by incorporating VSM into the institutional internationalization strategy as part of a suite of mobility options, symbolically by taking a forward-looking approach to student mobility that emphasizes the equity, environmental and sustainability benefits of VSM, and through institution-wide communication with all stakeholders with information about VSM. HEI leaders should also use their position to extend institutional partnerships to incorporate VSM. Mobilizing resources for VSM at institutional level can be done through grants to faculty/staff who want to develop VSM as well as by recognizing initiative and innovative practices e.g., with certificates/badges, awards, career development, and financial incentives. Incentives should also be used to create/promote more diverse and inclusive VSM programs, that bring in underrepresented students.

To promote an innovative culture of technology-supported lifelong learning alongside international exchange and cooperation, leaders could make some form of VSM mandatory for all students. Innovation can also be fostered through course design and development, which should include supporting training for VSM and virtual pedagogies and integrating digital literacy as a key skill development for all HEI stakeholders. Many HEIs already have devices ready to loan if students do not have their own so no one is left out, and this is a model that should be extended. For newer HEIs, leaders are recommended to jump straight to the cutting edge of technology –

there is no need to follow the model of older (Western) universities that have gone through gradual development of internationalization.

The most important role that **governments and quality assurance (QA) agencies** can play is to create a conducive policy environment to further develop VSM. To support better planning, governments should count and monitor VSM data (as has been done for PSM) in partnership with international organizations such as UNESCO. They should update legislation to incorporate VSM as a credit-bearing/recognized activity and, as applicable, ratify the Global and relevant Regional Convention on the Recognition of Qualifications. Governments should focus on implementing or adjusting regulations and funding mechanisms impacting VSM. This includes working with QA agencies to develop measures to evaluate and assure quality in VSM and to set targets for VSM take-up. Working cooperatively through regional and international networks, QA agencies should build on their experience of adapting national QA measures to the nuances of distance higher education during the pandemic by contributing to the creation of criteria and guidance to assure the quality of VSM in global perspective. QA agencies have an important role to play in reaching an international consensus on VSM.

Governments should offer seed funding to develop VSM partnerships, fund training and other costs to support administrative or teaching efforts that accompany VSM, create new funding streams for VSM and/or integrate funding for VSM into existing funding for student mobility. To support widened access to internationalization, there should be separate VSM funding and quotas for students who have been underrepresented in PSM e.g., those who are disabled, migrants and refugees. Govern-

ments or national higher education agencies can act as partnership brokers to support the development of new cross-national VSM partnerships. Governments should encourage the adoption of digital literacy courses for students and in higher education teacher training courses, also providing funding to support digital literacy training for students and faculty. Using their own resources or in partnership with public/private sector providers, technological developments should include extending the availability of high-speed Internet, and funding devices and/or data packages for students, especially those from under-represented groups.

**International organizations** can use their convening power to initiate global discussions about the necessary measures to begin collecting and monitoring VSM data from governments. They should set targets for VSM take-up, emphasizing access by under-represented groups and updating international and regional agreements, conventions, standards and other instruments on international higher education to incorporate VSM as credit-bearing/recognized activity. They should redouble efforts to promote ratification and further development of the Global and relevant Regional Conventions on the Recognition of Qualifications. With cross-national remits, international organizations can share emerging good policy practices on creating conducive environments for VSM integration and quality assurance. The United Nations Sustainable Development Goal 17 (Partnerships for the Goals)<sup>13</sup> offers a very suitable springboard for international organizations to incentivize equitable VSM partnerships. International organizations should also tailor their support to prioritize HEIs operating

in less-developed regions that would need extra logistical or financial support.

The institutional level recommendations put forward here are well aligned to findings from other studies by organizations working in the realm of virtual exchange. Publications by the Stevens Initiative<sup>14</sup> and the European Union through the Erasmus+ Virtual Exchange Handbook for International Relations Officers (European Union & EACEA, 2020) were particularly informative.

These recommendations assume that there is interest in developing VSM and build on the experiences of the case study HEIs that have already begun to implement VSM to show what the next steps could be. It is well understood that HEIs in different countries are subject to different contextual conditions that could affect their ability to move forward with VSM (e.g., in relation to access to technology, internet connectivity, credit recognition, ratification of Global/Regional Convention on the Recognition of Qualifications), which is why the recommendations for those operating at national or international level should be taken cognizant of the broader operating environments.

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13 <https://sdgs.un.org/goals/goal17>

14 <https://www.stevensinitiative.org/resources/>

**Table 4: Summary of Recommendations for Integrating VSM**

Group	Recommendations
Students	<ul style="list-style-type: none"> <li>• Be open to trying VSM as an alternative or complement to PSM.</li> <li>• Seek out VSM programs within your HEI; Ask for more virtual opportunities to have an international experience.</li> <li>• Be flexible, interested and engaged; provide feedback on the VSM program.</li> <li>• Be willing to learn to use new software and undergo training in digital literacy.</li> <li>• Advocate for financial support or free VSM opportunities for students at your HEI.</li> </ul>
Faculty and International Office	<ul style="list-style-type: none"> <li>• Raise awareness about VSM e.g., through presentations, events, HEI websites and social media; Highlight the cost and environmental benefits of VSM in communications with students.</li> <li>• Broker connections for VSM partnerships; Look not only to other HEIs but also NGOs, international organizations, and governments as VSM delivery partners.</li> <li>• For a first VSM experience, consider starting with a topic that will be of interest to many students – an ‘easy win’.</li> <li>• Start VSM with a partner you trust e.g., someone you have taught/done research with before.</li> <li>• Dedicate time to relationship management with partners. Keep lines of communication open. Understand that VSM partnerships, especially in their first iteration, need to be agile and may not require an MoU.</li> <li>• Be prepared to invest time in developing the VSM experience, especially the first time it is offered.</li> <li>• Think through equity considerations in partnerships, ensuring all partners have equal influence on the VSM program.</li> <li>• Carefully consider selection procedures: selection based on academics alone may not widen participation.</li> <li>• Do not try to replicate a PSM experience. Adaptation of existing courses is possible, with suitable adjustments for the virtual format.</li> <li>• Combine synchronous and asynchronous activities; 6-7 hours of time difference seems to be the limit for synchronous meetups; consider this when planning partnerships and activities.</li> <li>• Consider adding cultural and/or social activities to support student engagement, even if the VSM is primarily academic; Have students work in mixed teams that promote interaction.</li> <li>• Introduce feedback loops and be open to making changes, even mid-program.</li> <li>• Work with IT department and VSM partner on technology choices, including selecting an LMS; Streamline LMS access for all students.</li> <li>• Undergo training in digital literacy.</li> <li>• VSM does not have to last the whole semester and does not have to be the same model for all partner HEIs (e.g., credit vs non-credit-bearing).</li> </ul>
Institutional leaders	<ul style="list-style-type: none"> <li>• Incorporate VSM into institutional internationalization strategy as part of a suite of mobility options.</li> <li>• Take a forward-looking approach to student mobility. Focus on the equity, environmental, and sustainability benefits of VSM.</li> <li>• Communicate with all stakeholders at the HEI with information about VSM (what already exists, how it could be developed).</li> <li>• Extend institutional partnerships to incorporate VSM.</li> <li>• Offer grants to faculty/staff who want to develop VSM; Recognize initiative and innovative practice in the form of certificates/badges, awards, career development, and financial incentives.</li> <li>• Incentivize faculty and staff to create/promote more diverse and inclusive VSM programs, bringing in underrepresented students.</li> <li>• Promote technology-supported lifelong learning by making some form of VSM mandatory for all students.</li> <li>• Foster a culture of innovation in course design and development; Support training for VSM and virtual pedagogies.</li> <li>• Integrate digital literacy as a key skill development for all HEI stakeholders.</li> <li>• Have devices ready to loan if students do not have their own, so no one is left out.</li> <li>• For newer HEIs, jump straight to the cutting edge of technology – there is no need to follow the model of older (Western) universities that have gone through gradual development of internationalization.</li> </ul>
Governments and quality assurance agencies	<ul style="list-style-type: none"> <li>• Count and monitor VSM data as has been done for PSM in partnership with international organizations such as UNESCO.</li> <li>• Update legislation to incorporate VSM as credit-bearing/recognized activity; ratify Global and Regional Conventions on the recognition of qualifications.</li> <li>• Develop measures to evaluate and assure quality in VSM; set targets for VSM take-up.</li> <li>• Contribute to creating criteria and guidance to assure the quality of VSM in global perspective; support an international consensus on VSM.</li> <li>• Offer seed funding to develop VSM partnerships; Fund training and other costs to support administrative or teaching efforts that accompany VSM.</li> <li>• Create new funding streams for VSM and/or integrate funding for VSM into existing funding for student mobility.</li> <li>• Commit separate VSM funding targeted at underrepresented students in PSM e.g., disabled, migrants and refugees; Initiate selection quotas for non-traditional mobility participants.</li> <li>• Be a partnership broker.</li> <li>• Encourage adoption of digital literacy courses for students and in higher education teacher training courses; Fund and support digital literacy training for students and faculty.</li> <li>• Extend availability of high-speed Internet; Fund devices and/or data packages for students, especially those from under-represented groups.</li> </ul>
International organizations	<ul style="list-style-type: none"> <li>• Initiate global discussions about necessary measures to begin collecting and monitor VSM data from governments.</li> <li>• Set/monitor targets for VSM take-up, emphasizing access by under-represented groups.</li> <li>• Update international/regional agreements to incorporate VSM as credit-bearing/recognized activity.</li> <li>• Redouble efforts regarding the Global and relevant Regional Conventions on recognition of qualifications.</li> <li>• Share emerging good policy practices on creating conducive environments for VSM integration and quality assurance.</li> <li>• Use SDG17 (Partnerships for the Goals)<sup>15</sup> as a springboard to incentivize equitable VSM partnerships.</li> <li>• Tailor support to prioritize HEIs operating in less-developed regions that would need extra logistical or financial support.</li> </ul>

Source: UNESCO IESALC

15 <https://sdgs.un.org/goals/goal17>



## 7 Conclusion: Towards a more inclusive understanding of student mobility

Virtual forms of student mobility already exist and are recognized alongside physical mobility in the Global Convention on the Recognition of Qualifications. Some forms of VSM are highly developed, whereas others were kickstarted because of the restrictions on physical movement placed by the pandemic. The 14 case studies in the report, which include 73 HEIs across 38 countries in all world regions, are truly remarkable examples of the kind of higher education people hope for: student-centered, flexible, and connected (UNESCO IESALC, 2021b). In many instances, the VSM programs were up and running fast, despite the faculty and staff commitment required, and with minimal financial resources, simply so that students did not lose out during the pandemic.

As the experiences of the 14 case studies have shown, VSM presents both opportunities and challenges. The main points from the cases can be summarized as follows:

- Most VSM experiences happened because of the **motivation** of faculty/staff who developed and implemented them, and many would not have happened without the pandemic. All the HEI **partnerships** were already established before the pandemic.
- **Flexibility** helps get VSM experiences implemented. Many cases did not require an MoU to start or continue developing VSM. Flexibility extends to the format of the experiences – when they are scheduled, how they are organized, etc.
- The **cost** of VSM is minimal compared to PSM but there is extra work for faculty/staff, at least the first time around. In most cases, students did not have to pay anything. The additional time expended is well spent when programs later continue or expand.
- HEIs in the Global South tended to **select students** based on higher academic performance

as a reward/recognition for their achievements, but this may adversely affect the role that VSM can play in opening access to international opportunities.

- Most experiences were credit-bearing, and many included cross-cultural elements, demonstrating that **intercultural exchange** is entirely possible online.
- The pandemic has helped HEIs to be **more open to VSM**, but most do not think they would retain only a virtual modality once restrictions are lifted.

The effects of the ongoing Covid-19 pandemic will be both short- and long-term. Even once borders re-open, the ongoing climate crisis radically heightens the need already identified by UNESCO for ‘urgent action, taken together... to change course and reimagine our futures’ (UNESCO, 2021). In the realm of student mobility, this report’s contribution to changing course has been to make the case for **virtual student mobility (VSM) as a key means through which higher education internationalization and student mobility to be reimaged in a post-pandemic landscape.**

VSM supports higher education internationalization to be more inclusive and sustainable and to promote high quality education and skills development. Through the Global and Regional Conventions on the Recognition of Qualifications, UNESCO has created a platform to generate international consensus about **quality virtual student mobility** and to ensure that **credit or degree recognition are provided in a safe environment that protects students’ rights.**

In sum, the findings from this report and the global landscape lead to the conclusion that the **future of student mobility will combine physical international experiences with digitally driven virtual opportunities** that reach a wider range of students and build greater cross-cultural awareness and skills.

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