



Eight Sustainable Practices for Digital Activity Development: Drivers and Barriers in International Higher Education Collaboration

Alice Barana^{lb} and Marina Marchisio Conte^{lb}, University of Turin

Short-term technology-enhanced activities of international collaboration conducted in virtual, hybrid, or blended modalities can attract a greater number of students. We selected eight sustainable practices that higher education institutions could adopt to develop digital mobility activities.

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In recent years, internationalization has become a priority of higher education (HE) institutions.¹ Knight² defined internationalization as “the process of integrating an international, intercultural, or global dimension into the purpose, functions, and delivery of postsecondary education.” A mobility experience has become essential in students’ personal and academic paths.^{3,4} Many universities set goals related to the percentage of students who have the opportunity to join mobility programs during their careers. The recent global health, economic, and climatic crises have prompted the urgency to develop different forms of mobility that may be accessible for a larger portion of students and have a lower environmental impact, such as short-period mobility and virtual mobility.⁵ The pandemic caused an unexpected increase in available technologies and

devices; moreover, it showed us that it is possible to convey educational activities at a distance. New teaching and learning modalities are now common alternatives to in-person activities; they include fully virtual (teachers and students are all in different places), blended (part of the activities take place in person and part online), and hybrid (some of the people are in the classroom and some are elsewhere) activities.⁶ The idea that these modalities can also be applied to international activities has opened the path toward new forms of mobility that we refer to here as “digital activities of international collaboration.” Among them are the following:

- › *Collaborative Online International Learning (COIL)*: This online experience of coteaching and collaborative learning takes place between two (or more) teachers at institutions in geographically distant locations and from different linguacultural backgrounds. It is usually a voluntary initiative of single teachers.
- › *Virtual Exchange, also known as Internationalization at Home*: This involves technology-enabled, facilitated, people-to-people international education programs sustained over a period of time. It is a form of virtual mobility that aims to expand the reach and scope of traditional intercultural learning programs.
- › *Blended Intensive Programs (BIPs)*: These programs combine short periods of in-person activity with online learning and cooperative activities, open to groups of students, teachers, and administrative staff from different countries to collaborate on specific tasks in a collective and simultaneous way. Some international modules or international summer/winter schools are organized in a blended modality, so they can be included in this category.

It is possible to find other names for or variations of these modalities in the literature or on the web; they share the goals of enhancing international and intercultural understanding and developing global perspectives while reducing the necessity of students to physically move to another country. Among the numerous examples of digital activities of international collaboration, we can cite the COIL partnership developed by the State University of New York at Oswego, NY, USA, and, in The Netherlands, the Hague University of Applied Science’s health promotion and wellness department, described in Harris et al. 2021,⁷ where students of the two institutions were paired to work together for six weeks on various health promotion assignments in virtual modalities. Another example is the Open Virtual Mobility project activated between the University of the Balearic Islands in Spain and Roma Tre University in Italy,^{8,9} where preservice primary teachers of the two institutions worked in mixed groups in an open digital learning environment (DLE) to prepare open educational resources for their future students. The Interdepartmental University School for Strategic Sciences at the University of Turin, in cooperation with the IT-Army Education and Training Command and School of Applied Military Studies, is active in the proposal of short-term and virtual mobilities for civilian and military students in the field of security and defense.⁵ Recently, it has been organizing several BIPs on interdisciplinary themes, such as Problem Solving and Critical Thinking, Biosafety and Bioterrorism, and the Law of Armed Conflict. The BIPs include a few weeks of asynchronous online learning with digital materials, interactive activities, forum discussions, automatic assessment, and one week of in-person activities. The activities of the residential part include lectures, working groups, team presentations, and social and cultural activities, such as visits and sightseeing trips.

In Europe, the Erasmus+ program has evolved to include virtual or blended mobility: it funds virtual exchanges and BIPs.¹⁰ That is why in Europe several BIPs are currently under development.

WHY ARE THEY SO IMPORTANT?

Many recent international documents recommend adding a global dimension to the educational activities in HE. In Europe, the Digital Education Action Plan 2021–2027¹¹ identifies the strategies that educational institutions should adopt to promote digital education; among them, it includes “strengthening international cooperation on digital education.” Following this line, in 2021, the European University Association published the document “Universities Without Walls: A Vision for 2030,”¹² which foresees that, in 2030, European universities will be hybrid, transnational, and interdisciplinary. The document recommends supporting and funding all of those actions that promote collaboration and activities of collaboration among different universities and sectors. In the United States, the Joint Statement of Principles in Support of International Education, published by the U.S. Department of State and the U.S. Department of Education, promotes the exchange of students, researchers, scholars, and educators as a way to improve the national HE and research sector and consequently strengthen the economy of the whole country.¹³ Canada has invested much money in the International Education Strategy 2019–2024¹⁴ and will launch the new updated version starting in 2024. Similarly, many countries are investing in international education all over the world.

In our ever-evolving, interconnected world, it is essential to have an international vision to disseminate innovation. Furthermore, it is fundamental to be in contact with different realities.³ In Europe, the European Universities initiative is growing fast,

promoting the development of transnational alliances among HE institutions. They are the headquarters of innovative research and international education, offering teachers and students new and different opportunities of mobility.

From a student's perspective, it is extremely important to develop skills in an international dimension: coming into contact with different cultures and realities helps students open their minds and develop critical thinking and autonomy. Moreover, offering students virtual, blended, or hybrid modalities of experiences is relevant because those mechanisms may be the working modalities in companies. Internships are increasingly more often remote or hybrid. This will be helpful for a student's future working career.⁴

THE INVITE PROJECT

The European Erasmus+ project "Developing Competences and Innovative Designs for International Virtual and Blended Modalities" (INVITE) brings together experts from Denmark (Aalborg University), France (Columbus Partners), Greece (Hellenic Mediterranean University), and Italy (University of Turin) to investigate virtual and blended mobilities. Its main aim is to provide HE teachers with competences to design innovative international collaboration activities using DLEs in virtual or blended modalities.

In the first action of the project, the partners ran interviews with experts from all over the world in digital and international education to understand, after the pandemic, the innovative techniques of virtual, blended, and hybrid teaching that could be used to develop digital international collaborative activities.

This article reports some of the key findings that emerged from the 18 interviews run by the team of the University of Turin with experts from 11 different countries. In this article, we focus on the best sustainable practices HE teachers and

institutions can adopt to develop digital international activities, the obstacles they face, and the drivers that could promote their success. Our intention is to give HE teachers and institutions useful prompts and ideas to offer students opportunities for technology-enhanced mobility.

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BEST SUSTAINABLE PRACTICES

First, we investigated the best strategies HE institutions and teachers should consider for developing digital international collaborative activities. We asked the interviewees to identify the most sustainable practices, that is, those oriented toward saving resources and making these activities accessible, affordable, and feasible by students, teachers, and institutions. We grouped the practices that emerged from the interviews by the level of pertinence: four of them are related to institutional policies, while the other four are oriented toward a teaching and learning perspective.

The practices related to institutional policies are the following:

1. *Paying attention to the design process and sharing guidelines to design modules:* Goals, learning activities, and assessments should be aligned and appropriate, and valuable methodologies and technologies should be selected. Following common design guidelines within and, when possible, among institutions facilitates sharing and reusing content.
2. *Establishing e-learning centers in HE institutions:* They have a key role in supporting teachers, not only from a technical point of

view but especially in the design of international learning activities.

3. *Belonging to university partnerships:* These include, for example, European universities or other kinds of university alliances. Partnerships facili-

tate collaboration among institutions and among teachers of different institutions, support the development of joint programs and projects, and foster student mobility.

4. *Investing in technologies and teacher training:* This will provide educators with the tools and competencies to develop innovative digital activities.

From the teachers' point of view, we can list the following practices:

1. *Working in a DLE and thinking about the learning environment as an ecosystem:* A DLE is a learning ecosystem in which teaching, learning, and the development of competences are fostered and supported.¹⁵ In a DLE, students and teachers can collaborate face to face, online, or in blended or hybrid forms. A DLE should be conceived in a systematic way, including a learning community, technological devices and digital activities, and all of the interrelationships between humans and technologies.
2. *Using inclusive practices to engage students:* These include collaborative learning, flipped classrooms, interactive activities, problem solving,

project-based learning, and simulations. These practices have the power to enhance motivation, develop autonomy, and prevent failures.

3. *Adopting open practices:* These include practices to save energy and resources: sharing and reusing open educational resources, creating open repositories of digital international collaborative activities, and sharing pedagogies and designs.
4. *Using learning analytics:* The analytics can be used to monitor the digital learning experiences and dynamically improve them to adapt the activities to one's needs and to personalize the learning environment.

DRIVERS AND BARRIERS

Second, we asked the experts to identify key factors that can promote or hinder digital activities of international collaboration. Many of the factors can be perceived as both drivers and barriers, according to the positive or negative sense in which they are considered; therefore, the two categories have some common elements. We started with the barriers to focus on the possible obstacles that can impede the success of similar activities and classified them into eight different groups based on their nature. They are:

1. *Cultural barriers:* Fear [some people are afraid of what will happen if technology, especially artificial intelligence (AI) and avatars, replaces teachers], resistance to change, the culture of technology, and the way people perceive technology (this can be a driver when positive): many teachers are not comfortable with it, and they do not see that it can provide opportunities for interaction with students
2. *Teaching barriers:* Low-level skills of the teachers; lack of

experience; lack of teacher training, from both a technological and a methodological point of view; plagiarism in assessment; considerable teacher effort

- needed to develop similar activities, teachers not being compensated by recognition of the quality of the teaching activity
3. *Learning barriers:* Difficulties related to students' experiences, such as procrastination, fatigue, scheduling difficulties, coordination, and teamwork
4. *Language barriers:* Lack of knowledge of English and difficulties in using it as a medium for teachers and students
5. *Technological barriers:* Lack of investment in technologies, which reduces the possibility of developing meaningful educational activities or carrying out hybrid modalities; difficulties in integrating different technologies used in different institutions, such as learning management systems or assessment systems
6. *Institutional barriers:* Bureaucracy, from both teachers' and students' sides. COIL experiences can minimize it, while it can be a true obstacle to BIPs
7. *Contextual barriers:* Large classrooms that hinder the use of hybrid modalities and active learning; difficulties in organizing synchronous activities with students located in different time zones, different curricula, and levels of competence of students coming from different institutions
8. *Socioeconomic barriers:* Access to education and technology. This can also be a driver of open education and virtual mobility.


The drivers can thus be seen as the factors that can help overcome the abovementioned barriers. Here we list the main ones that emerged from the 18 interviews.

1. *Personal qualities of leaders and policy makers:* The presence on the decision-making floor of people with a vision who want to make changes and people willing to collaborate, promote innovation, and create opportunities can be a determinant to promote unconventional activities. They have the potential to overcome barriers such as lack of money or a bureaucracy. On the contrary, a lack of vision and personality in people at the heads of departments and administrative staff can impede innovative initiatives.
2. *Opportunities of collaboration:* These are opportunities enhanced by the trends toward internationalization and international collaboration recommended by national and international documents; the possibility to collaborate, also in multidisciplinary teams, made tangible by the presence of international or joint degrees, international alliances among universities, or international projects.
3. *Teachers' competences and teacher training:* Teachers' know-how, and the opportunity to develop it, facilitates the design and development of digital international activities. This can also be an obstacle when teachers do not have enough of these skills.
4. *Communities of practice:* Communities are a way to share good experiences, problems and solutions, new ideas, and innovations. They can be developed in a DLE, not only for teachers but also for students. Teacher communities can motivate and support teachers and offer them opportunities for collaboration; student communities can help students overcome

learning barriers and feelings of isolation.

5. *The new generation of students:* These students ask teachers for new modalities of learning, have different needs, and, especially after the pandemic, often have lower initial disciplinary competencies. They are used to technology and are no longer satisfied with traditional learning methods.
6. *Development and availability of new technologies:* These include, for example, AI-based technology and tools to collect and analyze data, enabling data-driven learning and adaptivity. They offer new perspectives on learning and new possibilities of interaction in face-to-face, online, blended, and hybrid settings.
7. *Teaching awards:* Instituting teacher prizes for the development of online courses is often a strong driver and can compensate for the absence of recognition of teaching quality for the advancement of careers.
8. *Competition of the universities with new actors:* During the pandemic, many online universities grew rapidly as competitors of physical universities. Thus, universities have to innovate the learning modalities offered and the international opportunities provided, taking advantage of their connections with research to be attractive to national and international students.

The current global political, economic, and climate situation and the high availability of technologies require HE institutions to rethink education pathways internationally and integrate global learning into our classrooms. Through interviews with experts in digital and international education, we have selected eight sustainable practices with the purpose of

helping teachers and institutions to design and implement digital experiences of international collaboration in a feasible way. It is common to face obstacles when trying to develop similar activities since they require time, skills, energy, money, suitable technologies, and specific conditions to be carried out by institutions, teachers, and students: all three subjects should be available to make an effort and collaborate. What emerges from the experts' voices is that it is important for teachers not to be left alone; their efforts must be supported and incentivized by suitable institutional policies. Teachers should be suitably trained, and their work should be recognized economically, especially from the perspective of career advancement. It is vital that teachers have the opportunity to join forces, work together, and share good experiences and resources. All of this can occur in a virtual practice community in a DLE. 

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ALICE BARANA is a postdoctoral researcher in mathematics education in the Department of Molecular Biotechnology and Health Sciences at the University of Turin, 10126 Turin, Italy. Contact her at alice.barana@unito.it.

MARINA MARCHISIO CONTE is a full professor of complementary mathematics in the Department of Molecular Biotechnology and Health Sciences at the University of Turin, 10126 Turin, Italy, and delegate of the rector for the development and promotion of the university's digital education strategies. Contact her at marina.marchisio@unito.it.

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