



Teacher Education across Europe: Innovative Mobility Opportunities

WP3: Designing Digital TEIMO Resources for BIP – Literature review

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Abstract

Blended Intensive Programmes (BIPs) combine physical mobility with online cooperation and provide opportunities for more flexible and inclusive international learning in higher education. This literature review examines how the virtual phase of blended mobility can be designed to support intercultural learning, collaboration, and student engagement. The review addresses three research questions concerning the promotion of intercultural learning in virtual learning environments, aspects to consider when organising Virtual Mobility (VM), and factors influencing the design of the virtual phase. A descriptive literature review was conducted by using ten peer-reviewed publications published between 2015 and 2025 and analysis was conducted using content analysis.

The findings indicate that effective VM requires careful and structured planning while maintaining close cooperation between participating higher education institutions. Intercultural learning is supported by meaningful communication and learning methods that applies collaboration, and provide opportunities for formal and informal interaction, team-building activities, appropriate task design, and creation of a safe learning environment. The review also identifies key challenges. These include scheduling, time-zone differences, technological accessibility, student engagement, and uneven workload distribution. Based on the findings, three interrelated design principles are proposed for the BIP online phase: inclusivity, interculturality, and collaboration. These principles guide design choices such as, student selection, accessibility, intercultural learning, task design and facilitation.

The review concludes that there is no universal model for implementing virtual mobility. Rather, successful virtual phases depend on context-sensitive design that integrates design principled throughout the programme.

Keywords: Blended Intensive Programmes, virtual mobility, intercultural learning, blended mobility, higher education

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List of Abbreviations

BIP	Blended Intensive Program
BM	Blended Mobility
COIL	Collaborative Online International Learning
HEI	Higher Education Institution
MOOC	Massive Online Open Course
TEIMO	Teacher Education across Europe: Innovative Mobility Opportunities
VE	Virtual Exchange
VM	Virtual Mobility

1. Introduction

Blended Intensive Programs (BIP) are short and intensive programmes that apply innovative teaching and learning, combining physical mobility and online cooperation (European Commission, 2025, p. 48). In practice, BIPs are short courses jointly organized by Higher Education Institutions (HEI) across countries. BIPs offer exchange possibilities for students with shorter time at the location. Course is built up around virtual meetings and intensive period between virtual sessions. BIP can include challenge-based learning, where participants are trying to tackle a challenge in transnational and transdisciplinary teams (European Commission, 2025, p. 48). This review will take a closer look on virtual phase of blended mobility. Virtual phase planning, methods, possible difficulties and good practices are essential components for planning blended program. The review aims to give insight for academic staff for designing virtual phase of blended program to reach the benefits and including diverse student body even better to the programs in the future.

BIPs offer flexibility for students with mobility and possibly engages larger number of students to attend student exchange (European Commission, 2022, p. 7; European Commission, 2025, p. 48). This is possible since the intensive phase of BIP is shorter than traditional student exchange program. Minimum stay in short term-physical mobility is five days (European Commission, 2022, p. 10). Virtual part of the course is implemented to make sure that course lasts long enough to have a meaningful impact from exchange point of view (European Commission, 2022, p. 9).

BIP courses are most commonly worth of 3 ECTS for students and workload for the credits isn't achievable alone during the physical mobility. Virtual meetings offer a great possibility to get acquainted before physical part, help with building sense of communality and orientate towards the theme. While virtual meetings are beneficial, there are few challenges along the way. Creating engaging and active virtual session with participants is one of the most common challenges in this context. High volume of participants might challenge the host to ensure that virtual meetings are engaging for participants. Co-operation between participating institutions could enrich the design of virtual phase. Although this might be a challenge if the structure of design is not defined clearly and responsibility is not divided between participants. Number of participants and lack of time for co-operation with participating institutes challenges the host to find innovating ways of making attendees active. Virtual meetings are not only lectures about basic information of the course. Virtual

environment serves for preparation for the physical component of the BIP and connecting with participants from different cultures to learn and discuss together.

European Commission (2022) defines inclusiveness and flexibility as a key factor for blended mobility programs. While program is built around physical and virtual components, it is achievable for a larger crowd than traditional student exchange. Students travelling to location of the program are eligible for support grant to cover travelling expenses. Participating virtual section of the program is possible from anywhere though time differences pose a potential challenge. Program also encourages local students to participate, and they can have international experience at home institution. Program can respect different academic calendars while planning is done in co-operation between HEI's (European Commission, 2022, p. 6–7). Blended programs seem to be beneficial in many ways. To reach the benefits, program planning and execution are in the centre of attention.

Implications for organizing virtual part of mobility programs are presented in this review within the discussion chapter. Implications are drawn from the results of this review and experiences of BIPs organized by the partners of TEIMO-project.

2. Mobility in higher education – from physical mobility to virtual

This chapter will address themes of internationalization and mobility, virtual mobility and exchange overall and design of Virtual Mobility (VM). Selected themes serve as a foundation to understand why and how VM is arranged. VM or use of virtual elements on exchange programs is becoming more common and subject is considered in this to fit needs of Blended Mobility (BM) and not only virtual programs.

2.1. Internalisation and mobility

In today's world teachers are preparing students for a heterogeneous society and how to become interculturally responsible citizens (Brück-Hübner et al., 2024, p. 12; Bloch, 2024, p. 68; O'Dowd, 2017). De Wit (2016) describes internationalization based on European Parliament's (2015) redefinition of the term. Internationalization of higher education is a process where international, intercultural or global dimension is integrated to post-secondary education to enhance quality of education and research for all institution faculties. Based on this definition, De Wit (2016) phrases that internationalization should become more inclusive. Focus of internationalization should not be on mobility but on the curriculum and learning outcomes. Goal should be to ensure internationalization for all (De Wit, 2016, p. 73–74).

According to Brück-Hubner et al. (2024) internalisation serves as an umbrella term for various ways of intercultural education. Internalisation is often understood as a mobility of students in the context of higher education. Mobility has traditionally been physical mobility as students travel abroad to study in foreign university. Development of digital tools have made Virtual Exchange (VE) possible which is referred also as internalisation at home. Combination of physical and virtual mobility is the blended mobility, which links virtual mobility directly with physical mobility part (Brück-Hübner et al., 2024, p. 12). VE or VM has become a new way for students and teachers to participate mobility besides the traditional, physical mobility (De Wit, 2016, p. 78).

2.2. Virtual mobility and exchange

HEIs are increasingly engaging their students in VM and telecollaboration (O'Dowd, 2017, p.8). Integration of VE and BM are linked to national and institutional regulations and therefore there is no best practises for all (Giralt et al., 2022, p. 129). European Commission (2022) states in their BM implementation guide that the virtual component of BM is not apart from physical component. They should complement each other and must not be handled as an individual part of the mobility (European Commission, 2012; European Students' Union & Erasmus Student Network, 2021; O'Dowd, 2021). VE has multiple scenarios for future usage, and it has possibility to integrate digital skills and intercultural learning to the learning experience (Giralt et al., 2022, p. 127).

VE is a tool to always used and not only in emergency times (i.e. pandemics) (O'Dowd, 2021, p.222). Key element in virtual mobility is to make mobility possible for masses of students who are not physically mobile and to create diverse, international and collaborative experiences for participants (De Wit, 2016, p. 78). Virtual exchange courses are not intercultural or collaborative automatically (Hacket et al., 2024, p. 1087).

According to O'Dowd (2017, p. 9) VE has evolved various forms over the last two decades and these forms compiles diverse selection of pedagogical objectives. O'Dowd (2017) refers to O'Rourke (2007) and Belz (2002) that these pedagogical objectives can be associated to develop competence in foreign language or improving intercultural competence. Some VE's are just courses organized by other university or Massive Open Online Courses (MOOCs) and they do not promote intercultural learning or collaboration between participants (Hacket et al., 2024, p. 1087).

There are multiple points to keep in mind for organizing virtual component. European Commission (2022) advice to be aware of challenges, such as time zone differences, unaligned academic calendars or variance in technological resources. Commission highlights importance of easy and functional learning environment for effective collaboration and learning. Virtual component can serve as a basis for physical component that it prepares students for upcoming group work. This approach includes for example connection making among participants and material sharing for the main assignment. It is important that virtual component allows cooperation between participants from different countries. Teachers and staff must be prepared to host online classes and have knowledge in online pedagogical approaches. (European Commission, 2022).

O'Dowd (2017) provides four examples of how virtual exchange can be approached / arranged in HE. First approach is subject specific approach which has a model of intercultural telecollaboration or intercultural exchange. This model aims to integrate online interaction to students' class-to-class partnerships where intercultural task and projects are developed by teachers in collaborating institutions. Emphasis is placed upon developing intercultural awareness and communication in this form telecollaboration. Second approach is subject specific virtual exchange. In this approach emphasis is develop necessary skills for students to work internationally with colleagues who are in other locations. Approach prepares students to work in teams which are referred as Global Virtual Teams. Utilizing this approach allows students to collaborate with each other and exchange their own cultural and professional knowledge from their own culture and create cross-culturally solutions for tasks. Third approach is shared syllabus model which most known form is Collaborative Online International Learning (COIL). Design of this model involves two or multiple classes with similar or shared content in different countries. Teachers of the institutions collaborate to design course modules to engage students to communicate and collaborate with each other. This collaboration can occur synchronously (live) or asynchronously (email, messaging etc.). Compared to previous models, this approach focuses more on creating shared syllabus together through collaborative and comparative perspective on subject content. Fourth approach to VE is service-provider approach. This approach consists organisations outside of HE who provides curricula and possible online environment for the VE class. These organisations can be seen as a facilitator for intercultural learning experience and VE is not dependable for individual teachers. Future development of VE depends on initiatives of practitioners, institutions and outsourced service providers. Important issue for VE growth is how these stakeholders can work closer together to promote VE to increase number of students to benefit intercultural exchange (O'Dowd, 2017).

One form of online learning and mobility is COIL (Hacket et al., 2024, p. 1078). COIL is used to internationalize curriculums and facilitate intercultural learning through collaboration between two or more HEIs (Hacket et al., 2024, p. 1078). Educators have reported reasons to implement COIL (Hacket et al., 2024, p. 1080). Collaborative learning is proven method to improve teamwork skills and have positive effects on content learning. Online communication offers environmentally friendly and inclusive platform for students to have international learning experiences. International aspect gives students possibilities to develop intercultural competence. Overall COIL creates interesting and unique experiences for learning (Hacket et al., 2024, p. 1080).

Hacket and colleagues (2024) provide key characteristics for identifying and implementing COIL projects. COIL requires collaboration of two or more educators from different HEIs in different countries. Course is designed in joint fashion to facilitate collaborative learning for students and

emphasis is placed upon intercultural and content learning. Assignments promote collaborative learning, and they have graded element, and students can be awarded with credits. COIL can be implemented in any discipline, and it can be interdisciplinary. To ensure student engagement, COIL should be spread through several weeks (Hacket et al., 2024, p. 1083). COIL differentiates from physical and blended mobility that it does not require travel to abroad and does not have extra costs for participants (Hacket et al., 2024, p. 1083).

2.3. Designing a virtual mobility

Planning and implementing VE have various aspects that play a role in the success of VE (Von Lieres & Lang, 2024, p. 107). These are organizational, temporal, technical, learning framework, didactic, language, content related and degree of collaboration aspects. Overall, these aspects are closely interrelated within each other.

VE/VM can be arranged in multiple forms according to Giralt and colleagues (2022). VE can serve as a preparatory or follow-up activity of physical mobility when it compliments thematics of physical mobility assignments. Students can also create relationships through VE when it is arranged before physical mobility. Other possibility in blended mobility is to intertwine VE into physical mobility and in this situation, VE serves more as a straightforward tool to activities worked on physical phase of mobility. VE can be arranged as an individual activity. In this form VE offers internalisation at home possibilities for students. This way students can participate on courses in other universities. Last mentioned possible use of VE is its usage as a component of a course in traditional sense. This means that VE is integrated in the course module. For example, two teachers can combine VE part of the course between the students who study separately different or same courses (Giralt et al., 2022, 122–126).

Von Lieres and Lang (2024) give an example that time and technical requirements make didactic and learning approaches possible or impossible. Thus, teachers must see multiple aspects influence each other when planning virtual exchange. Higher education didacticians must address various issues regarding to successfully implementing virtual international courses (Brück-Hübner & Nierste, 2024, p. 80). Planning a VE should include aspects of successful digital teaching and learning, digital group and team building, intercultural exchange and communication and a pedagogy of diversity (Brück-Hübner & Nierste, 2024, p. 80).

Students need support to fit into new learning culture (Brück-Hübner & Nierste, 2024). This can be understood as a support with learning platforms, communication and support with adapting learning methods. These aspects of student needs arise from cultural academic differences in international group, and they must be addressed when planning international course (Brück-Hübner & Nierste, 2024, p. 79). Brück-Hübner (2024) states that virtual space makes intercultural learning more challenging than physical space. It is not impossible, but it requires appropriate didactic design to promote intercultural learning within the group. Creating the sense of trust among participants in virtual space is essential for intercultural learning and to achieve this, students need to get to know each other in virtual space. To promote intercultural learning, the virtual sessions should include enough formal and informal exchange opportunities between students (Brück-Hübner, 2024, p. 62–63).

Educators need to balance formal tasks and informal time in VE's. Getting know one another is useful before engaging intense group tasks in these programmes (O'Dowd, 2021, p. 222). It has been noted that balance between synchronous and asynchronous communication is important in VE programs. Sole focus on collaboration via teleconferencing has felt that communication and exchange is depersonalized and doesn't engage participants to build connection and relationship with each other (O'Dowd, 2021, p. 221-222).

Task design has a massive impact on student learning outcomes and success of VE (O'Dowd, 2021, p. 222). Assignment design can help to promote intercultural learning (Brück-Hübner, 2024, p. 63). Challenging tasks that require co-operation or polarizing themes that makes multi-perspectivity possible. Polarizing themes calls for students to voice their controversial views which in turn creates a chance to negotiate and emphasize between student group. This aligned with sense of trust could advocate intercultural learning among the group. (Brück-Hübner, 2024, p. 62–63). Evidence states that through VE it is possible for students to develop their intercultural-, language- and digital skills among other skills, like content related skills. (O'Dowd, 2021, p.222). To achieve intercultural learning it is important to pay attention for reflection (Brück-Hübner, 2024 p. 63). Reflection tasks should aim to reflect individually and collectively learning processes and conclusions should be contextualized by theory and research (Brück-Hübner, 2024, p. 63 –64).

3. Objective & research questions

The purpose of this review is to depict virtual mobility and conclude how it could be organized. Review was guided by question “what are good practises in virtual mobility?”. Concepts of intercultural learning, internationalization and virtual exchange arose from the initial question. Review describes forms of mobility, takes a closer look on virtual mobility and intercultural learning. Decision of three research questions was done due the reason of specificity of each theme. Research questions focus to find out crucial components for designing successful virtual phase for mobility program. Review does not remark what context virtual exchanges have been organized in selected literature in the analysis process. This choice aims to generalize findings that anyone can utilize them in organizing virtual mobility.

Theme of this review is reviewed via following research questions:

1. How intercultural learning can be promoted in virtual learning environments in Blended Mobility?
2. What aspects should be considered when organizing Virtual Mobility?
3. What factors should be taken into account when designing virtual phase of mobility?

4. Methods

This review is conducted with methods of descriptive literature review. Objective in literature review is to build a wholeness from specific entity. In a descriptive literature review, the topic under study can be approached in a broad manner, so the material selection process is not limited by strict rules (Salminen, 2011, p. 11). A descriptive literature review thus offers freedom in terms of material selection. This thesis is a narrative overview in nature. According to Salminen (2011, p. 11), an overview is about summarizing previous studies.

The research data was collected using the electronic databases of Helka (University of Helsinki database) and Google Scholar. The search terms used were blended mobility, virtual mobility, virtual mobility design, intercultural learning and online pedagogics. The research material was limited to peer-reviewed publications and publication dates between 2015 and 2025. The articles selected discuss forms of virtual mobility and intercultural learning in a diverse and international manner. It was essential for the articles to answer one of three research questions at least.

The data was analysed using content analysis. According to Tuomi and Sarajärvi (2009), content analysis can be used to produce diverse research. The aim of content analysis is to produce a description of the studied phenomenon using the data in a condensed and general form (Tuomi & Sarajärvi, 2009, p. 103). When analysing the data, I focused on the factors that promote intercultural learning, depicts challenges in virtual mobility or design of virtual exchanges. These classifications are presented in the results section of the study. Data-driven content analysis is based on interpretation and reasoning, where the progression takes place from the data towards a more conceptual view of the phenomenon being studied. The stages described above follow the progression of data-driven analysis presented by Tuomi and Sarajärvi (2009). In this form of analysis, the key features are the free form of data acquisition and the data-based nature of the analysis and reporting (Tuomi & Sarajärvi, 2009, p. 99).

Article	Description
Calvo, Luciana & Hartle, Lynn. (2024). Virtual exchange in teacher education programs from Brazil and USA: outcomes and challenges. <i>Texto Livre</i> . 17.	Qualitative case study (N=77) about VE program with focus on cross-cultural collaboration and intercultural communication competence.
Esposito, C. (2025). Reimagining place in internationalization at a distance: An exploration of students' experiences in virtual exchange. <i>British Journal of Educational Technology</i> , 56, 762–778.	Qualitative study (N=43). Study was constructed via focus group interviews and participants had to have completed VE previously.
Machwate, S.; Bendaoud, R.; Henze, J.; Berrada, K.; Burgos, D. (2021). Virtual Exchange to Develop Cultural, Language, and Digital Competencies. <i>Sustainability</i> , 13, 5926.	Qualitative study. Observational data collection from VE participants meetings, group discussions, activity on digital platform and non-verbal communication.
Meredith, M. (2025). Insights from blended mobility: Combining COIL & short-term study abroad to enhance international business communication learning. <i>Euro.American Journal of Applied Linguistics and Languages</i> , 12(1), 53–73.	Qualitative study (N=58). Author analysed students' written reflections based upon Global Immersive Electives (GIE) course which implemented COIL model. Author explored development of employment skills via Blended Mobility.
O'Dowd, R., & Werner, S. (2024). The First Steps of Blended Mobility in European Higher Education: A Survey of Blended Intensive Programmes. <i>Journal of Studies in International Education</i> , 28(5), 798–817.	Qualitative study (N=196). Survey study for academic coordinators who had organized BIPs.
Perfözl, R., & López-Varela, A. (2022). Internationalisation of Teaching and Learning through Blended Mobility: Potentials of Joint International Blended Courses and Challenges in Their Implementation. <i>Education Sciences</i> , 12(11), 810.	Mixed method study about implementation of joint blended course. Themes revolved around challenges of this type of program, student motivation and teacher perspective in implementation.
Prada, E., Mareque, M., Dias de Carvalho, A., & Pino-Juste, M. (2025). A Blended intensive programme behind the scenes: Organisational and methodological effectiveness. <i>International Journal of Instruction</i> , 18(3), 659-682.	Mixed methods study ((N=31) about organizing BIP. Study participants spread on all positions of BIP program (student, teacher, coordinator).
Symeonidis, V. & Impedovo, M. (2023) Where internationalisation and digitalisation intersect: designing a virtual exchange to enhance student teachers' professional awareness as European teachers, <i>European Journal of Teacher Education</i> , 46:5, 821–839.	Qualitative study (N=45). Authors designed prototype for VE based on literature and then investigated prototype empirically and content analysed group works and students' reflections/surveys.
Wang, R., Wu, M., Shcheglova, I., Chen, J., & Mattinson, K. (2024). Engaging postgraduate students in the Global Virtual Exchange arena: Administrators' insights across levels. <i>Research in Comparative and International Education</i> , 20(1), 49-68	Qualitative study (N=7) involving organizers of VE. Data was collected in semi-structured interviews and then coded to find out relevant themes.
Werner, S. & O'Dowd, R. (2025). "The Learning Process Is Mutual": Connecting Student Teachers and In-Service Teachers in Intercultural Virtual Exchange. <i>Social Sciences</i> 14: 242.	Qualitative study about student teachers and in-service teachers' self-development during VE.

Table 1: Analysed literature

5. Results

5.1. RQ1: Promoting intercultural learning in Virtual Mobility

Intercultural learning and developing intercultural competence are long processes which happen in numerous contacts and exchanges in international setting (Werner & O'Dowd, 2025, p. 11).

Intercultural learning experience serves as an excentric motivational source for participating virtual mobility/exchange for students, especially from inclusive point of view (Wang et al., 2024, p. 57). To achieve development in intercultural development it needs to be made visible in VE. Mobility coordinators should promote awareness on intercultural learning and what it includes, like comparison of different cultural traditions on professions (Werner & O'Dowd, 2025, p. 11).

Pedagogical model produced activities of getting to know one another, building a sense of trust among the group and reducing distance between participants and pedagogical team. (Machvate et al., 2021, p. 11). VE can offer safe space for students. environment virtually (Esposito, 2025, p.771). This can be understood that creating safe space in the group can help learners to share their opinions and experiences more open to achieve intercultural exchange. In Esposito's (2025) research some participants highlighted the safety of interaction since other participants are far away in reality and it potentially helps to cover topics more freely than in individuals own physical reality. This barrier through virtual exchange gives the sense of safety that individuals can express their ideas more freely (Esposito, 2025, p. 770–771). According to Esposito (2025), facilitator acts as a guard of safe space in VE. Facilitator who is aware of cultural or even political tensions can maintain safe environment in all participants. Ensuring safety for participants can create engaging learning environment virtually (Esposito, 2025, p.771). These findings are linked to the intercultural learning point of view of virtual exchange.

Esposito (2025) states that digital environment gives a rich foundation for identity negotiation. Virtual environment allows individuals choose how they represent themselves. Background and clothing are most visible things for showing identity in virtual exchange (Esposito, 2025, p. 772). Therefore, this aspect of showing personal identities might add to intercultural learning in virtual mobility. According to Calvo and Hartle's (2024) analysis, students in virtual exchange show motivation to interact in intercultural environment. Authors suggest that development of self-knowledge is a first step for intercultural communication. This means that individual thoughtfully and emphatically listens others and creates their image what similarities and differences we have with each other. Time must be given for these interactions (Calvo & Hartle, 2024, p. 8–9).

Blended courses can encourage international learning if it is supported by teachers from early on (Perfözl & López-Varela, 2022, p. 12). This can be achieved with meaningful tasks that require communication and collaboration in mixed groups. Tasks should be designed to promote discussion and active participation from students (Perfözl & López-Varela, 2022, (p. 12). Diverse and student-centred methodologies can improve intercultural standpoint of BIP's (Prada et al. 2025). Giving freedom to students in presenting the assignment outcomes creates higher engagement and intercultural groups gives students possibilities to learn together and from each other. This is a part that stands out from research when asked about BIP's effect on their learning (Prada et al., 2025, p. 672).

O'Dowd and Werner (2024) report benefits of BIP's which are linked mainly to intercultural learning and internalisation. BIP coordinators mention working opportunities in international teams, network development and engaging intercultural collaboration. Inclusivity is among the benefits as a possibility to participate international learning experience for students who could not participate long term programmes (O'Dowd & Werner, 2024, p. 810).

Meredith (2025) based his findings from blended mobility to Helm & O'Dowd's (2020) nine employability skills. From intercultural learning point of view, Meredith found that blended mobility experiences support development of these skills. Developed skills include communication skills, global awareness, empathy, intercultural competency and teaming. Participants from Meredith's study state that some of the skills, like communication skills, are developed also in virtual part of the blended mobility (Meredith, 2025, p.60–63). Therefore, it is reasonable to assume that all mentioned skills can be included and developed through virtual mobility part of the programs. Participants come from different backgrounds and nationalities, so creation of mixed groups and interactive setup creates a situation where individual needs these skills to navigate the situation. In addition, Meredith (2025, p. 63–64) suggests that students in blended programs develop their self-awareness, adaptability and conflict resolution. Thus, these additional skills compliment intercultural learning since development progresses in international setting. This setting forces individual to look behind his or her own cultural point of view and try to resolve potential challenges with intercultural mindset.

In their study, Werner and O'Dowd (2025) noticed that teacher gained knowledge about teaching methods in different cultures. They indicate that intercultural learning in virtual exchange context can appear as gaining professional knowledge on one's profession (Werner & O'dowd, 2025, p. 10). Thus, intercultural learning is not only shown as differences of individuals but also on profession level which

can help individual to reflect on their profession critically. This context of intercultural learning and interaction between students can help to diminish stereotypes that one could have from other cultures (Werner & O'Dowd, 2025, p. 10).

Lack of intercultural learning may be a consequence of students' previous international experiences or their multicultural home societies (Werner & O'Dowd, 2025, p. 10). This implies, that even though intercultural learning is promoted in virtual exchanges, students may feel that they already have developed needed skills to navigate in multicultural context.

5.2. RQ2: Organizing a Virtual Mobility

Challenges for virtual exchange varies in multiple ways. Esposito (2025) noted that navigating with foreign language can create tension between participants. It is natural that not everyone is fluent using English as a common language in virtual exchange and that can affect to engagement level of students in virtual sessions. Certain situation can arise in group works if more fluent students dominate the conversation and some students are not participating because they feel that their language skills are not equal to others (Esposito, 2025, p. 771). Prada et al. (2025) implied that engaging students can be difficult if they lack familiarity among participants. Participants suggested that ice-breaking activities could help in terms of engaging participants along the virtual sessions. (Prada et al., 2025, p. 670).

Wang et al. (2024) suggests that cultural understanding, student engagement and scheduling can raise challenges in virtual exchange programs. Cultural differences may create friction between students if they do not recognize habits and traditions of others. Differences may be visible in form of religion, holidays and communication habits. Student engagement is an issue that is present in physical and virtual world both. It may come from student priorities. This means how students prioritize their time in virtual exchanges as it happens same time as their normal academic calendar and personal life. This issue can be linked to scheduling issues when there will be some time zone differences in globally organized virtual exchange (Wang et al., 2024, p. 59). Scheduling and time zone issues are seen as challenges in other studies as well (Calvo & Hartle, 2024; O'Dowd & Werner, 2024).

Workload may differ a lot inside the group because lot of the work in virtual mobility is done outside mandatory meetings (Symeonidis & Impedovo, 2023, p. 832). This issue might be linked to communication between the working group. Difficulties in interaction between working groups can be

visible in a way that some members do not feel that all participants are working as active as they are (Calvo & Hartle, 2024, p. 10). This issue is linked partly to cultural differences in communication and usage of communication tools as well. Asynchronous forms of communication can lead to misunderstandings and create friction between mixed groups (Calvo & Hartle, 2024, p. 10). Symeonidis and Impedovo (2020) implied that working more in synchronous manner would give better possibilities to communicate as a group.

Challenges of virtual exchange/mobility issues might rise through technology infrastructure according to Esposito (2025). Need for strong internet connection is crucial for virtual exchange to work. We may never be sure where students must go to have a good internet connection or if they are able to access to the platform (Esposito, 2025, p. 773). Thus, it is important in planning phase to make sure that everyone have an access, and students have planned their place of studying in virtual exchange.

Prada et al. (2025) noticed in their research about blended mobility that virtual part of the mobility received lower satisfaction scores from participants, Virtual component is found to have some difficulties alongside its positive standpoints. Digital platform can be seen as a challenge of blended-courses (Perfözl & López-Varela, 2022). Ideally the platform could be reached by students without receiving access to platforms from host university. The platform that is decided to use could use access via eduGAIN if possible (Perfözl & López-Varela, 2022, p. 15).

According to Prada et al. (2025) virtual sessions are positively perceived as it is versatile for students despite it has some challenges. Depending on subject of each virtual meeting, it is possible to give students time to manage their own studying style in groups and work in their own pace. However, it is possible that group work virtually does not happen outside of the BIP's. Each university has their own academic timetable, and it can be a challenge. Students may decide to work individually or in pairs due to the scheduling issue (Prada et al., 2025 p. 671).

5.3. RQ3: Factors of designing Virtual Mobility

Collaboration between institutions is highlighted for planning VE or virtual part of mobility (Symeonidis and Impedovo, 2023; Calvo & Hartle, 2024; O'Dowd & Werner, 2024). Communication between participating institutions instructors need to be regular that all necessary information and project goals and work processes are clear for participating students (O'Dowd & Werner, 2024, p.

813). According to Perfözl and López-Varela (2022) there are various factors that should be considered when planning a joint blended course. From organizational standpoint there are financial framework, scheduling, personnel capacities and technical logistics (Perfözl & López-Varela, 2022, p. 7).

Partner institutions should have early contact when planning a joint blended courses (Perfözl & López-Varela, 2022, p. 7). Important decisions for the course are done with good communication, like course structure and learning task design. Especially structure of the course is a matter that should be determined together. For the structure it is key element to decide how much course includes synchronous and asynchronous workload and what kind of learning platform is used during the course (Perfözl & López-Varela, 2022, p. 7–8).

Coordinators of BIP programmes had remarks for good practices of BIP's (O'Dowd & Werner, 2024). Matter of transparent planning and structure of programme, especially in online phase, was mentioned by coordinators. This means that online phase of the mobility must have a clear plan and it should not be just a series of meetings without clear agenda. They suggest that online phase should include collaborative and interactive activities and possibility for students to develop good working relationship with each other (O'Dowd & Werner, 2024, p. 810–813). Students of the VE course could be included in planning process to decide digital platforms for working because they are the ones who uses them (Symeonidis & Impedovo, 2023, p. 835).

Machvate et al. (2021) noted that. the pedagogical model and work on designing it is a crucial part for reaching goals set for VE. In their study, the pedagogical model was based on flexible content management, continuous monitoring and tutoring, a variety of digital tools and openness to work in or out LMS (learning management system) (Machvate et al., 2021, p. 13). Hence, staff members could be activated to offer support for students and emphasize creative aspect of teamwork by using different digital tools and have autonomy on the assignment outcome. Focusing on online learning pedagogics, preparation for cultural sensitivity and communication could help students and instructors to prepare for virtual mobility (Wang et al., 2024, p. 61).

Symeonidis and Impedovo (2023) stated that in planning the organizer must take account aligning schedules of different institutions, number of synchronous meetings and how long they last and setting learning objectives. Introduction task gives participants a chance to show to others where and from what point of view they are participating VE. This can create familiarity among the group and helps to work interculturally along the course (Symeonidis & Impedovo, 2023, p. 830–831).

Wang et al. (2024, p. 60) highlights the importance of targeted promotion of virtual internationalization chances to attract students to participate. This could mean that professional development and subject competence are promoted to students so they would be interested to participate these exchanges.

5.4. Summary

The purpose for this review was to discover components for designing the virtual part of mobility programs. Virtual learning environment has been used growingly in recent times on education at all levels and development of mobility programs is in progress at HEIs. Despite specificity of each theme, they intertwine with each other in the sense that design of virtual component can utilize themes simultaneously to achieve objectives set for it. Virtual learning environments and tools have been used in Virtual Exchange, Blended Mobility and as a component of regular courses as well. Purpose of this review serves mainly organizers of BM programs. Objective of the review covers aspects of intercultural learning, challenges of organizing VM and key components for VM design.

Presented results align with literature in chapter two of this review. Virtual mobility is a method that requires cooperation between institutions in planning and execution. This joint planning is highlighted in several research (Symeonidis and Impedovo, 2023; Calvo & Hartle, 2024; O'Dowd & Werner, 2024). To achieve objectives set for virtual component, design requires attention for its pedagogical model, intercultural learning promotion and balance between formal and informal forms of student work.

Intercultural learning and individual intercultural competence development happens in continuous contact in international setting according to Werner and O'Dowd (2025). Thus, achieving development in this area, it must be given time and usage of engaging activities plays key role. Werner and O'Dowd (2025) notes that students should be made aware of what intercultural learning includes and to enhance this process, Machvate and colleagues (2021) highlight importance of creation of safe space among the participants. Therefore, organizing staff must address aspects of intercultural communication and select activities to support team building and engagement of students. Virtual meetings should balance formal tasks and informal tasks within mixed groups. Esposito (2025) places facilitator to a key role in virtual mobility. Facilitator is instrumental in preserving safe space among the group. This could be arranged that early in the virtual mobility when group is divided into smaller

mixed groups, each group could have one staff member with them as a facilitator. This would help groups to start bonding process and actual work. Facilitator would set up tasks that use student centred and communicational approach, like Perfözl and Varela-López (2022) suggest for intercultural learning. This could be ensured in the planning process that each participating staff member is given a role of facilitator, so they start promoting intercultural learning and supporting mixed groups early on.

Challenges in virtual part of mobility resides mainly on scheduling between institutions (Calvo & Hartle, 2024; O'Dowd & Werner, 2024; Wang et al., 2024) and technological aspects (Esposito, 2025; Perfözl & Varela-López, 2022). Scheduling in this context can mean schedule of mandatory meetings, time zone differences and individual group work. Scheduling issue seems to be the most relevant issue when we look to participant satisfaction and achieving intercultural and collaborative learning.

Division of workload between students in small groups is challenging participants in VM (Symeonidis & Impedovo, 2023; Prada et al., 2025). This challenge can be attached to intercultural aspect of virtual mobility and course design. It is likely that workload is not divided evenly, especially when groups are working together first time and members come from different cultures. Previously mentioned possibility to use a facilitator could help with this challenge.

From a technological standpoint, issues relate to accessibility (Perfözl & López-Varela, 2022). For future development it would be ideal to have common platform for using in these virtual mobility settings. This would mean easier access to learning platform for students and there would be no need to gain access rights from organizing university.

The design of virtual part of mobility requires focusing on various aspects. O'Dowd and Werner (2024) stated that virtual part of mobility should be planned that it forms a whole and it is not just a series of meetings without common agenda. Therefore, it would be meaningful that online phase of mobility is directly linked to, or it serves as a preparation for the physical part of the mobility. In BIPs, there is a need for handing out necessary information in virtual meetings toward the physical part of mobility, but meetings should include collaborative and interactive activities, as O'Dowd and Werner (2024) notes. This design could help students stay engaged in the course and motivated to study.

These findings give a conclusion that virtual phases of mobility programs need a careful and structured planning. Organizers can draw influence from similar programs, but it seems that there is no universal way of planning and executing virtual mobility. Essential element for designing a VM lies in collaboration, interculturality and engagement. Virtual meetings require attention for student

engagement and skilful facilitator to create a space, where intercultural exchange takes place. Therefore, creation of design principles for organizing a VM is well reasoned. Challenges and successes of VM are drawn back to three key principles which are interpreted from the literature. These principles are inclusivity, interculturality and collaboration. Highlighting these three principles in VM design create a foundation for VM that engages participants to foster international cooperation throughout the program.

DESIGN PRINCIPLE	HOW TO APPLY IT INTO VM?
INCLUSIVITY	Student selection – attraction of large body of students Accessibility (Digital platforms) Theme of the course
INTERCULTURALITY	Educating students and staff on intercultural communication Working in mixed groups Staff operates in role of facilitator with student groups
COLLABORATION	Task design Amount of synchronous and asynchronous communication Team building Appropriate use of digital platforms

Table 2: Design principles for designing a VM

6. Limitations

Results of this literature review have few limitations. First, literature consisted of articles covering blended mobility, virtual mobility and virtual exchange. These forms of mobility share similarities, but they have their differences. Author's analysis aimed to form synthesis of designing intercultural virtual part of mobility program and to recognize challenges in organizing it. Differences in forms of mobilities in the literature makes summarizing practises of virtual part of mobilities difficult.

For the validity of review, material is analysed with good research practice. Literature has been published in the range of past four years, so data can be considered up to date in the context of the review. Objective was to delimit literature from past decade since development of ICT-tools and forms of online learning has been developed more. This delimitation was set to ensure relevancy and validity of literature. As this review is done with methods of descriptive literature analysis, the selection of literature is freer than with systematic review. The literature consists of ten articles, which is quantitatively appropriate. Article had to answer one of three research questions to be selected in the literature.

The literature has been analysed using content analysis methods. Results and conclusions are interpretations derived from the literature. Analysis has been conducted carefully, so no essential information related to research questions is overlooked.

7. Discussion

This chapter will discuss implications of designing a VM based on design principles presented in chapter 5. One purpose of this review was to give insight about forming design principles for virtual phase of mobility program for TEIMO-project. Design principles presented here are focused to make BIPs engaging and creating intercultural learning communities that adds value for students from perspective of self-development in personal and professional manner.

When designing key principles, focus was aimed via following questions. Should we pay more attention in training staff and students how to work in virtual space? It sounds like it would be a basic skill for everyone in 21st century but is it really? Are we sure that all participants in zoom or teams are engaged? Do we promote collaboration and participation in virtual space or is a virtual meeting just a meeting for a meeting's sake? When working in virtual environment is becoming more common and we work in intercultural groups, it would be beneficial to offer some training or guidelines how to operate in that context. Collaborating live might be easier when we can read other people's expressions better and see whole situation in front of us. Virtual space can create uncertainty if we are not sure who is going to talk and when. This could create discomfort and make us feel that we are not in safe space anymore. Could team building be an answer here?

Overall, it is safe to say that successful online phase for mobility program requires definition of design principles. Conclusion is that key design principles include matters of inclusivity, interculturality and collaboration. Design principles are interpreted from the results. Challenges and successes of VM are outcomes of focus or lack of inclusivity and collaboration. Intercultural component is always present in multi-institutional BM effort. These design aspects should always be present during a virtual phase when participants collaborate transnationally in a short and intensive period. Highlighting these principles in VM design can build foundation for VM that engages participants to foster international cooperation throughout the program. Below is presented design principles and how they could practically be applied in VM design.

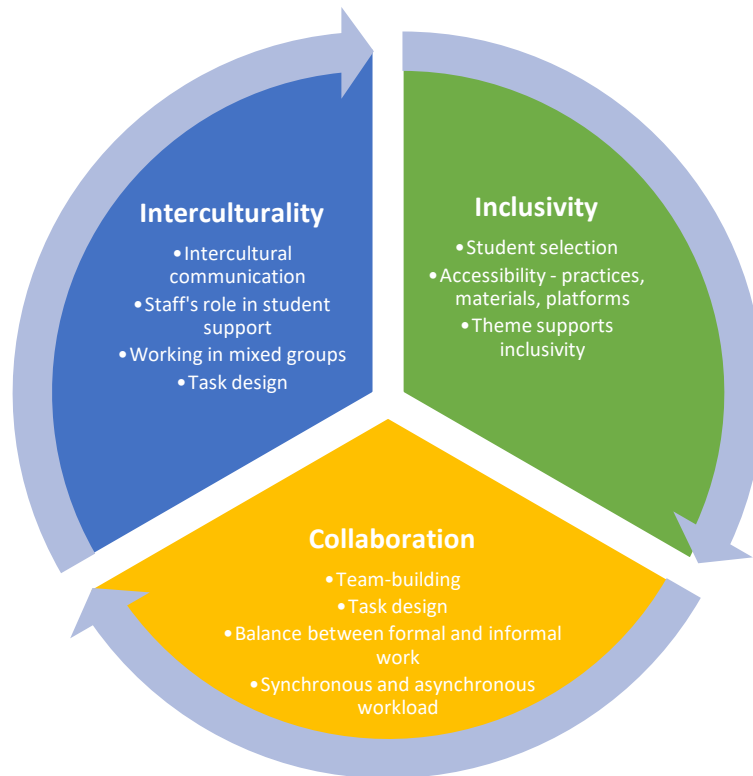


Figure 1: VM design principle implementation

To integrate these design principles into BIPs, the organizer should make principles as visible in the program as possible. They could be even discussed with participants early on as the values of the program. Following, it is elaborated how these design principles and give practical examples how one could apply them in a BIP.

1. Inclusivity

- Student selection – selecting students with a broad spectrum. Diversity in age, study phase and specialization in studies. Adding this diversity adds depth in the participant body, since participants come to the course from different stages in their lives and studies.
- Accessibility – promoting accessible practices gives equal chance to all individuals participate BIP exchanges. These matters include digital infrastructure, various travelling options and preparing for attending the needs of an individual with special needs.
- Course thematic – if possible, course theme could support inclusivity. Since participants are joining BIPs from different cultures and are preparing to operate in globalized world, theme could be related to inclusivity.

2. Interculturality

- Intercultural communication – participants are made aware of possible misunderstandings and problems that working in intercultural group can create. If possible, MOOC about intercultural communication and working in such group could be organized before participating BIP. Educating beforehand creates awareness of cultural differences in communication and prepares individuals to focus on good communication.
- Task design – in this principle we look for elements that creates understanding on topic between cultures. Can participants find similarities or differences to consider when producing their own result. Cultural exchange broadens participants perspective and offers them tools to reflect their own profession.
- Staff's role in student support – clarifying roles for each staff member. Using teachers as facilitators for mixed groups and helping to engage in intercultural work.
- Working in mixed groups – creating enough opportunities for students to work with fellow students from other institutions during online phase. Fixed groups that combine students from different cultures and mixing these groups in selected activities. Utilizing this may help students to feel more comfortable to work with new people and foreign language.

3. Collaboration

- Team building – promoting sense of belonging among participants. BIP enables networking and fostering international relations. Including purposeful activities to enhance cohesion among participants could help individuals to feel comfortable and more prepared to participate on course activities and be motivated on self-development.
- Task design – focus on producing as a group. Selecting working methods and platforms that require collaborative approach on assignment. Digital tool selection to support collaborative form of working.
- Group work – Providing appropriate amount of formal and informal time for group work. Groups need time to figure out their style of working and how much they need synchronous time of working and how they communicate most effectively asynchronously.

In this model of the online phase, inclusivity and interculturality are closely related as a design principle. Focus in BIPs is to design a program that gives opportunity for large student mass to participate and program blends well in individual's study schedule. Matters of subject, workload and accessibility (i.e. online, short travel) should be considered. This way BIPs would attract number of students who otherwise would not participate exchange programs for some reason.

Interculturality should be considered with a purpose to form cross-institutional study groups for creation of international network for participants. Program design must emphasize intercultural exchange and engage students to be interested in international collaboration. If cultural differences are considered early on and discussed, setting group's own rules and habits for group work could be easier. Creation of group's own work culture is important when groups are working synchronously and asynchronously. This can be achieved by using facilitator and giving enough time for group work in mandatory virtual meetings. One other option to consider is if there is possibility to train students in intercultural communication and collaboration before mobility programs. Applying digital learning tools would be efficient method here and partner institutions could design MOOC for participants to study individually. Or perhaps this type of intercultural collaboration course should be in every university's course catalogue since we are living in global world.

Having a common digital platform would make BIP programs more inclusive as well because students would be in equal position when using platform which is not used as a main LMS in anyone's own institution. Purposeful use of digital platforms did not come up in literature. This means that selected digital platforms should be determined for the purpose of use in VM. This could mean that we have certain platform for collaboration and certain platform for reflection for example. This way we ease students' adaptability for using different platforms when organizers use determined approach for different platforms. In the meantime, it is up to organizing institution if they want to use open platforms (i.e. Digicampus), their own LMS (i.e. Moodle) or operate between different platforms (i.e. Padlet, teams). Need for common platform is already present. BIPs and VEs are becoming increasingly common in higher education and making learning platforms more accessible takes stress off from staff and students.

Task design, meeting structure and objective of the programme should give enough room for student autonomy to collaborate in international groups. Design principles should guide planning and implementing of BIP. Organizers need to carefully reflect that were the design principles present at all stages of the program and did working methods support execution of principles.

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