

Research for CULT Committee - Virtual formats versus physical mobility

Concomitant expertise for INI report

KEY FINDINGS

1. There is an **abundance of evidence that physical mobility provides a wider set of benefits** including: the development of personal and professional skills and competences; increased adaptability to new and changing environments; development of a sense of European citizenship; and increasing labour market opportunities.
2. There is a clear argument that **virtual formats reduces travelling** and thereby saves on travel costs, emissions and time. Nevertheless, digital tools (video streaming; cloud computing; etc.) have a significant carbon footprint as well.
3. **No clear evidence** is available that compares virtual formats with physical mobility in terms of learning process, outcomes and wider benefits for participants.
4. Existing evidence is sufficient to confirm that **virtual formats can serve as an effective option to address challenges related to cultural awareness, intercultural collaboration, and transversal or soft skills**. Nevertheless, **virtual formats cannot completely provide the same kind of learning experience** compared to physical mobility in Erasmus+, where many of the benefits are derived specifically from immersion in another culture. When immersion in another culture is not at the heart of a scheme (i.e. short-term mobility) virtual formats can be considered
5. Virtual formats have benefits and risks for the programmes. A significant **shift to virtual formats would present a wide range of challenges** in terms of planning, logistics, the development of platforms or other systems, and the provision of technical support on the implementation and use of these systems.
6. There is general agreement amongst scholars that **none of the forms of mobility learning is an alternative for replacing others**. Each form adds to the enrichment of education in a different way, while still offering students the opportunity to develop international competences and skills.



Introduction

This short briefing paper is part of the study into effective measures to ‘green’ the Erasmus+, Creative Europe and European Solidarity Corps programmes, which aims to provide input for the CULT Committee own-initiative report (“INI report”) on effective measures to “green” the CULT programmes.

One of the considerations addressed by the previous introductory paper (and by stakeholders) is the **promotion of online forms of learning, cooperation and mobility (such as virtual learning, blended learning, etc) and the extent to which these can serve as replacements or additions to physical mobility to reduce emissions of greenhouse gasses**. On the one hand, this consideration would be in line with developments seen over the past years in which learning institutions across Europe have increasingly adopted the use of innovative modes of teaching and learning through ICT tools. These methods have resulted in a shift in mainstream education from traditional (face-to-face) learning to new, blended forms of education (EADTU, 2019).

Further, the **European Commission has showed a growing interest in virtual formats as a tool in education** through financing several virtual exchange projects in the past, as well as the project Erasmus+ Virtual Exchange (EVE) in 2018¹. This is a flagship project aiming to expand the reach and scope of the Erasmus+ programme via virtual exchange. Erasmus+ further supports different IT support platforms such as eTwinning, the School Education Gateway, the European Platform for Adult Learning (EPALE) and the European Youth Portal and includes further features, such as: virtual collaboration spaces; databases of opportunities; communities of practice; and other online services for teachers, trainers, practitioners, young people, volunteers and youth workers in the field of school and adult education across Europe and beyond. Additionally, Erasmus+ also supports the development of innovative teaching and training methodologies based on digital technologies (e.g. Massive Open Online Courses (MOOCs), simulators, augmented reality, etc.), as well as virtual and blended formats for learners and staff (European Commission, 2019)². Analysing the full project overviews of Erasmus+, European Solidarity Corps and Creative Europe programmes (published on their respective project results platforms³) for the period 2014 to 2019, however, show that **only a few projects address ‘blended mobility’ in their summary description**, being a very small share of the total of 129 263 projects. The Commission proposal for the future programme refers to **the ambition to introduce a number of improvements and novelties such as virtual and blended formats, however, not being precise how this will be effectuated** (European Commission, 2018a).

On the other hand, the physical mobility scheme has always been at the core of the Erasmus+ programme (Key action 1, in particular). This raises the question as to **what the impact of a significant shift towards virtual formats in the Erasmus+ programme** would be and what benefits for participants, delivered through the current programme, would be lost in the process. In order to contribute to answering these questions, this paper will address the added value of physical mobility (compared to virtual formats, within a context of capacity building). The methodology consists of desk research of scientific literature on physical and virtual learning formats, studies into the impact of Erasmus+ mobility, as well as reports discussing examples of Erasmus+ initiatives within a context of virtual formats.

¹ For the remaining part of the briefing paper the term ‘virtual formats’ is used, instead of the term virtual mobility as often referred to in academic literature since 1990 (actually having the same meaning and therefore the terms are interchangeable) (Vriens et al (2010)). The term virtual format is mentioned in the European Parliament legislation resolution of 28 March 2019 by the European Parliament on the proposal for a regulation of the European Parliament and of the Council establishing ‘Erasmus’ (European Parliament, 2019). Virtual formats include virtual cooperation, blended learning and virtual learning.

² Blended Mobility combines physical meetings abroad with ‘virtual’ team work from the home base (for students and staff).

³ Available at: https://ec.europa.eu/programmes/erasmus-plus/projects/eplu-projects-compendium_en and <https://ec.europa.eu/programmes/creative-europe/projects/ce-projects-compendium/>

To what extent does physical mobility in the Erasmus+ programme provide a unique opportunity for capacity-building and intercultural contact?

From the start of the predecessor of the Erasmus+ programme in 1987, the central objective has been to create an international experience that facilitates the immersion of people into another culture (EADTU, 2019). This is achieved through supporting the learning mobility of individuals (e.g. studying in another country and through strengthening the cooperation between institutions across Europe (European Commission, 2018b).

There is an abundance of evidence that physical mobility provides a wider set of benefits. First of all, it is important to note that **there is a solid theoretical base for the expectation that students develop a sense of European identity by spending part of their studies in another European country**. This refers in particular to social theories that highlight transnational and intergroup contact as important mechanisms for identity-formation and reducing intergroup bias (Mitchell, 2012)⁴. Furthermore, **studies into the effects of physical mobility have shown a variety of positive influences for participants delivered through the Erasmus+ programme**, including the following effects: the development of their personal and professional skills and competences (Dolga et al., 2015)⁵; increased adaptability to new and changing environments (Llurda et al., 2016)⁶; development of a sense of European citizenship or European identity (Mitchell, 2012; Llurda et al., 2016); and increasing opportunities in the labour market (Ballatore et al., 2013). Additionally, research shows that physical exchanges have a significant positive impact on the participants' understanding of complex cultural dynamics, tolerance and their willingness to work globally (Kokko, 2011). The most recent Erasmus impact study 2019, confirms the positive influence of Erasmus+, enhancing students' quality of life and career prospects, as well as building a sense of European identity and social cohesion (European Commission, 2019)⁷.

With regards to the effect on developing a European identity, there is an **ongoing debate as to whether studying in another country causes European identity** or whether students who already identify as European citizens are more likely to participate in international mobility. However, this does not seem to be the case for Erasmus+ as shown in the empirical studies by Mitchell (2012), where only 10% of (2,011) Erasmus students indicated that they already associated with other nationalities to the same or greater extent before participation in the programme. This indicates that the **Erasmus+ programme does provide a unique opportunity for intercultural contact for the majority of participants**. Nevertheless, the resulting increase in 'EU awareness' is generally considered a secondary gain to participants' individual objectives⁸, rather than an explicit objective (Llurda et al., 2016). Some scholars argue that physical mobility does not always lead directly to the development of intercultural competences or an enhanced transnational identity and instead often remains a somewhat random result of experimental learning. This type of learning

⁴ More specifically, the Social Communication Theory (Deutsch, 1953); the Contact Hypothesis (Allport, 1954); and the common inter-group identity model (Gaertner et al., 1993).

⁵ In terms of professional skills, Erasmus+ contributes in particular to the development of language skills, relational skills, professional skills and scientific / academic knowledge and skills. In terms of personal skills, Erasmus+ contributes to building an individual's self-confidence and independence, as well as improve their attitude towards the(ir) profession (related to their studies).

⁶ Such as seen in the case study among Catalan Erasmus+ participants (Llurda et al., 2016), for example, which showed that participants feel empowered through the programme since they have become less insecure in using a foreign language and feel more capable of moving to another country in the future.

⁷ The Erasmus Impact Study 2019 reports that 80 percent of Erasmus+ graduates are employed within three months of graduation, with 72 percent stating their Erasmus+ experience helped them land their first job. Nearly half of Erasmus+ trainees were offered a job in the company where they trained. Around 90 percent of Erasmus+ students feel the programme has improved their ability to collaborate with people from different cultures, and are more positive about the role of the EU in society.

⁸ Which are generally steered more towards learning about another country or culture, rather than experiencing / learning about the EU or feeling more European (see also Mitchell, 2012).

depends on situations, on encounters, as well as individual psychology (Papatsiba, 2005). There have been similar findings by Paige et al (2009), who argues that the key to successful physical mobility programmes is how the exchanges are structured and the type of learning experience provided.

Also, evaluation surveys among staff in Erasmus+ compared to a control group showed that participation in the programme is generally associated with wide networking and cooperation, stronger attachment to Europe and greater use of digital resources (European Commission, 2017).

To what extent are virtual formats suboptimal compared to physical mobility?

In the last few years **increased attention has been given to virtual formats. This has mostly come from the perspective of inclusive education** as, for a large number of students, it is not possible to go abroad for social, financial or other reasons (and given that not all students are able to receive funding from Erasmus+) (Richardson, 2016). Mobility is limited to a relatively small percentage of the student and staff population. Even if the EU benchmark for 2020 of 20% is to be achieved⁹, this will leave 80% of students with limited international and intercultural experiences as part of their university studies. International exchange opportunities for youth workers, school pupils and other individuals are also very limited due to a variety of financial, socio-economic and personal circumstances.

To compare physical mobility with virtual formats, it is first necessary to clearly define virtual formats. Four main types can be identified: (1) A virtual course or seminar; (2) a virtual study programme; (3) a virtual work placement; or (4) virtual support to physical exchange¹⁰. Each type has its own purpose, working mechanisms and outcomes. Generally speaking, there is a **lack of comparative research between virtual formats and physical mobility**. While there is a clear argument that virtual formats reduce traveling and thereby save on travel costs¹¹, emissions and time, no clear evidence is available that compares virtual formats to physical mobility in terms of learning process, outcomes and wide benefits for the participants. It also needs to be mentioned that **digital tools (video streaming; cloud computing; etc.) have a carbon footprint as well**, using a significant amount of electricity contributing to CO2 emissions¹². Besides, blended formats do not reduce traveling, since physical mobility is still taking place (short mobility).

Nevertheless, there is a body of academic research, although fragmented, that shows that **virtual formats (in particular exchange schemes) do indeed have a substantial impact on their participants**, such as a positive relationship between virtual formats and cultural intelligence¹³. In addition, assessments performed on the Sharing Perspectives Foundation and the eTwinning

⁹ A benchmark defined within the framework of ET 2020 stipulates that at least 20% of higher education graduates should have had a period of higher education-related study or training (including work placement) abroad. More information available at: http://ec.europa.eu/education/policy/strategic-framework/index_en.htm.

¹⁰ As identified in the Being Mobile manual.

¹¹ The feasibility study of the Erasmus+ Virtual Exchange initiative (European Commission, 2017) shows that the running costs of both virtual and physical youth exchanges may vary a lot depending on their duration, number of participants and other features. The costs of one exchange may range from 2900 to 120,000 Euro for physical exchanges and from 20 to 1250 Euro for virtual ones.

¹² The non-profit organisation The Shift Project looked at nearly 170 international studies on the environmental impact of digital technologies. According to the experts, their share of global CO2 emissions increased from 2.5 to 3.7 percent between 2013 and 2018 (the Shift Project, 2019). According to the authors this means that the use of digital technologies actually causes more CO2 emissions and has a bigger impact on global warming than the entire aviation industry (estimated on 2.5 percent)

¹³ For example, a study on virtual multicultural exchanges of management students revealed that cultural intelligence and global identity, but not local identity, significantly increased over time and that this effect lasted after the project had ended (Erze et al, 2013). Similarly, a study on virtual exchanges between young Korean and American teachers showed that after participating in the international virtual activities participants showed more consideration on multicultural/diversity aspects, and these activities continuously improved international relationships between the two countries (Yoon & Insoon, 2016).

platform provide evidence of improvements in soft skills (Education for Change, 2013). For instance, ‘Study of the impact of eTwinning on participating pupils, teachers and supporting staff’ found that participation increases curiosity, openness to other European cultures, cultural awareness, social competences, language and teamwork skills (European Commission, 2013)¹⁴. Moreover, the positive effects of participation in virtual exchanges are not limited to cultural views. The teachers’ survey identified five main benefits of eTwinning, including: making new friends and networking across Europe (64%); new or improved ICT skills (60%); a positive impact on pupils’ skills or motivation to learn (55%); a sense of involvement in an international teaching community (55%); and improved foreign language skills (54%). By the same token, a survey of 6,000 eTwinning teachers in 2016, showed that eTwinning strongly impacts students’ motivation with around 90% of teachers declaring that the project had a moderate or large impact in this area, and 91% of teachers reported that eTwinning improved their cross-curricular skills (Kearney & Gras-Velázquez, 2018). The pilot project Erasmus+ Virtual Exchange, supported by the Erasmus+ programme also reports positive outcomes amongst participants in terms of: building positive and meaningful relations; increase in digital competences, foreign languages, and teamwork; collaborative problem solving; increased tolerance; and intercultural sensitivity (Helm & van der Velden, 2019). Recent research on MOOCs, on the other hand, paints a more negative picture with low completion rates, although completion rates have proven to be higher when students have been nudged via interactivity features (such as mentoring and feedback from peers) being added to online courses and when courses cost money (Reich & Ruipérez-Valiente, 2019)¹⁵.

Furthermore, when comparing physical mobility to virtual formats in terms of the *learning experience* they provide it is the journey itself and the ‘change of place’ that provides the experience in physical mobility. For virtual formats, it is the knowledge that travels, which is then used in different social and cultural contexts to provide the experience (Aguado et al., 2014). This provides an indication that **virtual formats cannot provide the same kind of learning experience as the Erasmus+ programme currently delivers through its physical mobility**. With this in mind, it also follows that when *immersion* into another culture or language is desirable, virtual exchange cannot replace physical mobility and the latter would be preferred. In cases where a stay abroad is not specifically required or when immersion in another culture is not at the heart of a scheme (i.e. short-term mobility) virtual formats can be considered, especially when virtual learning environments have become technically sophisticated enough to support both small and large groups.

The feasibility study of the Erasmus+ virtual exchange initiative (European Commission, 2017), identified a number of **benefits and risks of virtual exchanges**. Benefits relate to lower costs; better outreach to target groups and (non-eligible) regions; different forms of interaction and outputs; development of soft skills and digital competences; and possibility that the platform becomes a virtual hub of civic engagement. Identified risks concern low participation since core elements of physical exchange being absent (live interaction; traveling; extra-curriculum activities); individual or cultural concerns regarding privacy; difficulties in ensuring commitments/ attendance of participants; limitation that only young people with high quality devices and good access to internet join in, as well as those with more privileged backgrounds; low quality infrastructure, support materials, and skills assessment tools; unqualified prepared facilitators; intercultural misunderstanding and conflicts; unattractive, unclear interface; issues with compliance with the EU data protection regulations; and young people being sceptical of any initiative associated with ‘institutions’ such as the EU. **A significant shift to virtual formats would therefore present a wide range of challenges** in terms of planning, logistics, the development of platforms and other

¹⁴ The impact study gathered data and evidence over 21 months through a literature review, data and document review, completion of 24 school case studies in 13 countries, and a general survey in 25 languages of 5956 registered eTwinners.

¹⁵ A recent study by academics at the Massachusetts Institute of Technology found that online courses had an astronomical dropout rate of about 96 per cent on average over five years. The research, which studied people who both registered and viewed a course by MIT and Harvard on their joint online learning platform, edX, also found that this figure had not improved between 2013-14 and 2017-18 (Reich & Ruipérez-Valiente, 2019).

systems, trained individual users, and the need to provide technical support on implementation and the use of developed systems to universities, teachers and students. Moreover, although digital tools and resources are increasingly available to educators, they continue to be used in a very limited, traditional manner by most teachers. The European Commission (2015) reports in this regard that online technologies are mainly used as a remedial tool and innovative approaches to using online technologies are often limited to the pedagogical activities of a small minority of innovative practitioners.

In conclusion, **existing evidence is sufficient to confirm that virtual formats can serve as an effective option to address challenges related to cultural awareness, inter-cultural collaboration and transversal or soft skills.** The question is, however, whether virtual formats should strive to copy physical mobility as much as possible in order to provide the same benefits or to complement physical mobility. Scholars argue that that **virtual formats are, in essence, different from physical mobility, although they can be perfectly used as a complement to or alternative for physical mobility.** There is **general agreement amongst scholars that neither of the forms of learning is an alternative to the other.** Each form adds to the enrichment of education, offering students the opportunity to learn international competences and skills. By incorporating a combination of physical, blended and virtual forms of mobility into a curriculum, students have greater opportunities to integrate an international learning experience into their portfolio and have more opportunities to develop competences such as intercultural and linguistic skills, online collaboration, media and digital skills, online team work and networking, open mindedness, and critical thinking (EADTU, 2019).

References

-) Aguado, T, Monge, F, Del Olm, A (2014), Virtual Mobility in Higher Education - The UNED Campus Net Program, *Open Praxis Article*, 6(3). Available at: <https://www.openpraxis.org/index.php/OpenPraxis/article/view/120>
-) Allport, G (1954), *The Nature of Prejudice*, Cambridge (MA): Addison-Wesley.
-) Ballatore, M and Ferede, M(2013), The Erasmus Programme in France, Italy and the United Kingdom: Student Mobility as a Signal of Distinction and Privilege, *European Educational Research Journal*, 12(4), p525-533. <https://doi.org/10.2304/eej.2013.12.4.525>
-) Deutsch, K (1953), *Nationalism and Social Communication*, Cambridge (MA): MIT.
-) Dolga, L, Filipescu, H, Popescu-Mitroi, MM & Mazilescu, CA (2015), Erasmus Mobility Impact On Professional Training And Personal Development Of Students Beneficiaries, *Procedia - Social and Behavioral Sciences*, 191, p1006-1013. Available at: <https://www.sciencedirect.com/science/article/pii/S1877042815024957>
-) Education for Change (2013), Study of the impact of eTwinning on participating pupils, teachers and schools, Final report, Luxembourg: Publications Office of the European Union
-) Erez, M, Lisak, A , Harush, R, Glikson, E, and Nourri, R (2013), Going global: Developing management students' cultural intelligence and global identity in culturally diverse virtual teams.', *Academy of Management Learning & Education*, 12(3), p330- 355.
-) European Association of Distance Teaching Universities (EADTU) (2019), *Innovative Models for Collaboration and Student Mobility in Europe, Results of EADTU's Task Force and Peer Learning Activity on Virtual Mobility*, European Association of Distance Teaching Universities (EADTU): Maastricht (NL). <https://eadtu.eu/home/policy-areas/virtual-mobility/publications>
-) European Commission (2019), Erasmus+ higher education impact study, Luxembourg: Publications Office of the European Union.
-) European Commission (2018a), Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing 'Erasmus': the Union programme for education, training, youth and sport and repealing Regulation (EU) No 1288/2013 COM/2018/367 final - 2018/0191 (COD).
-) European Commission (2018), *Erasmus+ Annual Report 2018*, Luxembourg: Publications Office of the European Union, DOI: 10.2766/989852.
-) European Commission (2017), Combined evaluation of Erasmus+ and predecessor programmes, Final report – main evaluation report (Volume 1), Luxembourg: Publications Office of the European Union.
-) European Commission (2015), *European education and training monitor*, Luxembourg: Publications Office of the European Union.
-) European Commission (2013), *Study of the impact of eTwinning on participating pupils, teachers and schools*, Luxembourg: Publications Office of the European Union.
-) European Parliament (2019), European Parliament legislative resolution of 28 March 2019 on the proposal for a regulation of the European Parliament and of the Council establishing 'Erasmus': the Union programme for education, training, youth and sport and repealing Regulation (EU) No 1288/2013 (COM(2018)0367 – C8-0233/2018 – 2018/0191(COD)). TA/2019/0324

- J Gaertner, S, Dovidio, J, Anastasio, P, Bachman, B and Rust, M (1993), 'The Common Ingroup Identity Model: Recategorization and the Reduction of Intergroup Bias', *European Review of Social Psychology*, 4(1), p1-26.
- J Helm, F and van der Velden, B (2019), Erasmus+ Virtual Exchange: 2018 Impact Report, EC-02-19-388-EN-N, Luxembourg: Publications Office of the European Union. DOI: 10.2797/668291
- J Llurda, E, Gallego-Balsà, L, Barahona, C, and Martin-Rubió, X (2016), Erasmus student mobility and the construction of European citizenship, *The Language Learning Journal*, 44(3), p323-346. DOI: <https://doi.org/10.1080/09571736.2016.1210911>
- J Kearney, C and Gras-Velázquez, À, (2018), *eTwinning Twelve Years On: Impact on teachers' practice, skills, and professional development opportunities, as reported by eTwinners*, Central Support Service of eTwinning - European Schoolnet, Brussels.
- J Kokko, R (2011), 'Future nurses' cultural competencies: what are their learning experiences during exchange and studies abroad? A systematic literature review, *Journal of Nursing Management*, 19(5), p673-682.
- J Mitchell, K (2012), Student mobility and European Identity: Erasmus Study as a civic experience?, *Journal of Contemporary European Research*, 8(4), p490-518.
- J Paige, R, Fry, G, Stallman, E, Josić, J, Jon, J (2009), Study abroad for global engagement: the long-term impact of mobility experiences, *Intercultural Education*, 20, p29-44. <https://doi.org/10.1080/14675980903370847>
- J Papatsiba, V (2005), Political and individual rationales of student mobility: a case-study of Erasmus and a French regional scheme for studies abroad, *European Journal of Education*, 40(2), p173-188. <https://doi.org/10.1111/j.1465-3435.2004.00218.x>
- J Reich, J and Ruipérez-Valiente, JA (2019), The MOOC Pivot, *Science*, 363(6423), p130-131.
- J Richardson, S (2016), *Cosmopolitan learning for a global era: Higher education in an interconnected world*, London: Routledge.
- J The Shift Project (2019), -LEAN ICT- TOWARDS DIGITAL SOBRIETY, Report of the working group directed by Hugues Ferreboief for the think tank the Shift Project.
- J Vriens, M, Petegem, W, Op de Beeck, I, Achten, M (2010). Virtual mobility as an alternative or complement to physical mobility.
- J Yoon, J and Insoon, H, (2016), 'Virtual Activities to Promote Multiculturalism and Sustainability of International Partnerships.' In *Teacher Education: Concepts, Methodologies, Tools, and Applications*, IGI Global, p1384-1401.

Further information

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