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Sustainable mobility for international academic exchange: programs, policies and practices

The authors explore the impact of international mobility on the environment and examine regional and institutional practices aimed at minimizing climate change resulting from international air travels. The policies of European and American universities on sustainable mobility are highlighted.

International mobility of individuals, institutions, information and technology is a key characteristic of the global dimension of higher education. Meanwhile the international academic community gets increasingly concerned with the impact of HE internationalization on the various aspects of human lives, including but not limited to environment. Thus, numerous universities are more aware of their impact on climate change and consider ways to reduce their carbon footprint. In this context academic exchange programs and study abroad policy undergo changes.

Though international mobility of students and faculty is considered a high-impact academic experience and is widely promoted by different stakeholders, there is a growing concern about the climatic change and oil supplies and the impact that academic exchange programs have on host communities and environment.

The concept of carbon footprint refers to the amount of greenhouse gases produced by an individual or organization (business), which is usually measured in tonnes of carbon dioxide. Aviation is considered a major contributor to global carbon emissions. Even though according to research by D. Lee et al. [8] air travel accounts for only 1.9% of global greenhouse gas emissions, environmentally conscious students may forgo international experience in an attempt to reduce their individual carbon footprints.

Meanwhile the focus of higher education in developed countries is on preparing students for employment in increasingly green economy as well as adopting environmentally responsible policies. Public awareness of the impact of human activity on global warming and dangers of climate crises has increased especially in 2020, following the onset of COVID-19 and multiple wildfires in different parts of the world. According to Princeton Review Guide, 61% of applicants indicate that university's commitment to environment is an important factor in their decision when making a choice [11]. This is controversial to the need to promote study abroad programs when there is a lack of quantitative and qualitative research showing the true impact of study abroad programs on the host communities and environment.

European Council mentions combating climate change as one of the priorities for the period of 2021-2027, which are expected to facilitate sustainable growth. Under Paris Agreement, European countries are to propose their target objectives in Nationally Determined Contributions, which were due in 2020. The NDC outline the actions countries are ready to undertake in order to reduce their Greenhouse Gas emissions as well as to build resilience to adapt to the impact of global warming. For

example, Ukraine has set a Greenhouse Gas emission target of 60% compared to the 1990s.

The European Union's goal is to be climate neutral by 2050, to become an economy with net-zero greenhouse gas emissions. The European Green Deal was adopted in 2019 to provide guidelines that help to achieve this ambitious goal outlining the European action plan for 2019-2024.

When it comes to immediate actions on the part of European countries, within Horizon Europe program Climate, Energy and Mobility is a separate direction with a goal to support research projects aimed to fight climate change.

Green Office Movement has been evolving in Europe since 2010, this initiative unites students, faculty and other stakeholders concerned with environmental problems and helps to promote sustainability in higher education [5].

Erasmus+ Program introduced green travel option for participants of their student and staff mobility programs, this option involves longer travel time and allowance for green transportation [2]. Thus, students or faculty participating in exchange programs can opt for traveling by train, choose environmentally friendly transportation.

However, the results of Eurorail research conducted in 2020 show that 75% of students who participate in international mobility choose to travel by plane to get to their study/work destination and half of the respondents prefer air travel for their leisure trips too [10]. Nevertheless, participants were more likely to choose buses and trains for their leisure trips. Thus the environmental impact of transport gets overlooked. While price is the main factor when choosing transport for leisure trips, speed of travel is the crucial factor for choosing to travel by plane. A collaboration between Eurorail and Erasmus Program is being discussed under which students may be offered an Interrail pass, valid in 35 countries. The pass would allow participants of student exchange programs to travel to and from their host university by train [10]. Therefore, one of the major regional exchange programs explores ways to make a contribution to combating climate change.

In 2014 the US Institute of International Education has launched Generation Study Abroad initiative which aims to increase the outbound mobility with a target of 600000 students in 2017-2018. As of 2021, the numbers show that this goal has yet to be achieved, since only 347,099 people studied abroad in 2018-2019 which is only 1.6% higher than previous academic year. This represents approximately 1.8 % of all students in the US [12]. Even though prior to the start of the COVID19 pandemic the numbers have been increasing steadily

Heterogeneity and decentralization of the US system of higher education allows for diverse goals when it comes to internationalization and introducing international dimension into higher education. Thus, certain universities prioritize international experience, while others may be reluctant to adopt necessary changes and see internationalization as an unwelcome addition to their responsibilities. Environmental concerns may hinder process further. For example, the University of Denver states that study abroad accounts for 8% of the organization's total Greenhouse Gas emission, while for the Pacific Lutheran University it amounts to 19% [7]. According to the University of Denver's calculations, an average study abroad flight emits about 1.5 metric tons of carbon. With around 70% of undergraduates studying

abroad, a large chunk of the University's carbon footprint comes from travel-related emissions [13].

As a compromise, American universities offer participants of study abroad programs to purchase carbon offsets. Carbon offset is defined as a unit of carbon dioxide-equivalent that is reduced, avoided or sequestered to compensate for emissions occurring elsewhere [4]. Universities may use part of student's tuition or require to pay additional fees.

Another way for higher education institutions to compensate for the Greenhouse Gas emission is to make study abroad more community oriented via adding a service component to an academic program or creating more service-learning programs. Thus, the benefits will outweigh the harm, since students are about to engage into humanitarian activities or support local sustainability projects.

The Green Passport Program is an initiative with an overarching goal to foster dialogue, advocacy and action around the issues of environmental sustainability and social justice by providing study abroad offices with resources to green their operations and informing students about the ways to lessen negative impact on host community [6].

Numerous US universities included sustainability issues in their study abroad orientations, where students are informed about the environmental impact of their trip and ways to minimize it.

Virtual exchange programs present an interesting alternative, providing students with international experience without the need to leave the classroom or their own homes. Teachers may use various platforms to connect students from different countries of the world in synchronous and asynchronous mode. This initiative is not new but it has been expanding rapidly in 2020. However, their impact on students' skills and competences has to be further explored.

Therefore, the institutions look for ways to offer sustainable international exchange opportunity trying to meet their Greenhouse Gas emission targets as well as to educate internationally aware graduates who are competitive at the job market in a globalized world.

Conclusion

Public awareness of the climate crises stimulates higher education institutions to adopt environmentally responsible policies and educate conscious citizens, this effects policies on academic exchange and study abroad programs on regional and institutional levels. The controversy between the opportunity to gain international experience and contribute to combating climate change may present a challenge to prospective participants in study abroad programs. Moreover rapidly expanding virtual exchange programs make an interesting alternative but their impact on students' personal and professional lives has not been researched yet. Meanwhile environmentally conscious individuals and institutions committed to combating climate change look for ways to make international exchange programs sustainable among those are endorsement of green transport, buying carbon offsets and making study abroad programs more community oriented.

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