Promoting international student mobility for sustainability?
Navigating conflicting realities and emotions of international educators

Anne C. Campbell*, Thi Nguyen, and Maia Stewart

Middlebury Institute of International Studies
460 Pierce Street
Monterey, California 93940 United States

* Corresponding author, accampbell@middlebury.edu

Author Biographies

Anne C. Campbell, Ph.D. (ORCID: 0000-0001-9896-8017) is an associate professor in international education management at the Middlebury Institute of International Studies. Her research and teaching focuses on topics related to international comparative higher education, sustainable development, and international scholarship programs.

Thi Nguyen, M.A. (ORCID: 0000-0001-5782-2345) is a scholar-practitioner of international higher education at the Middlebury Institute of International Studies. Her research and practice focuses on diversity, equity, and inclusion (DEI) issues of higher education internationalization, student identity, global citizenship, and sustainable development.

Maia Stewart (ORCID: 0000-0002-5501-1781) is pursuing two Master's degrees in international education management and public administration at the Middlebury Institute of International Studies. She conducts research on international educators' responses to climate change and is interested in issues related to environmental justice and human rights.

Abstract (150 words max)
In international education, climate change is an increasingly prominent consideration. International mobility contributes to global carbon emissions yet provides students with skills and knowledge to address climate change. Based on interviews with 17 individuals working in international education, this qualitative study illuminates how international educators view climate change: both as a threat and an opportunity for the field. When considering and mitigating international education's carbon emissions, interviewees reported mostly negative emotions: feeling stuck, frustrated, and overwhelmed. Interviewees also noted difficulties in logically and ethically reconciling the relationship, especially with student mobility as a key component of international education, providing several rationales for expanding international education to promote social and environmental justice. Notably, interviewees called for a reimagining of the field with more virtual exchanges and less air travel. Findings aim to inform higher education internationalization efforts – and student mobility specifically – in a time of climate crisis.

Promoting international student mobility for sustainability?

Navigating conflicting realities and emotions of international educators

Introduction

With increased awareness of climate change and the interruptive nature of the COVID-19 pandemic, higher education internationalization staff has had to pause and examine its values, practices, and strategies. Before the pandemic in 2019, 5.6 million students pursued tertiary education outside their country of citizenship (Organisation for Economic Co-Operation and Development [OECD], 2020). These trips were to enroll in degree programs overseas, lead and be part of short- and long-term study abroad, to attend conferences, and to participate in overseas internships – all activities that included in-person learning and international travel. Much of this mobility was facilitated by airplanes. When this rate of international education ceased in early 2020, alternatives to international student mobility, like collaborative online international learning (COIL) or other forms of virtual exchanges, became increasingly attractive.

At this time of constructing the meaning of international student mobility, international education, as a field, is also increasingly examining its impact on the environment. Pre-pandemic levels of air travel translated into an amount of carbon output accounting for approximately two percent of the world's total (Terrenoire, Hauglustaine, Gasser, & Pananhoat, 2019). It is estimated that internationally mobile students who seek full degrees abroad put out as much carbon through plane travel as the country of Jamaica, Tunisia, or Croatia (Shields, 2019). Rumbley (2020) calls student mobility "internationalization's dirty little (climate) secret" (p. 33).

This acknowledgement is paired with the increasing concern about climate change, and those who work in international education are no exception. Understanding the ways that international education professionals view climate change and understand their role in

addressing it is increasingly on the minds of international education scholars and practitioners. As evidence, major international education associations have selected conference themes related to sustainability, countless public opinion pieces have been written about these concerns, and this special issue is dedicated to exploring both theoretical and practical understandings of the complex relationship between internationalization and environmental sustainability. To date, very little empirical knowledge about how those who work in international education consider climate change, or respond to it, has been published.

The concept of international education is broad, as are the terms climate change and sustainability. For example, sustainability has numerous definitions and focal areas in international education, including education for sustainable development (ESD), the targets of the Sustainable Development Goals, "going green" practices, sustainable programming and funding, and long-lasting effect of education on participating students, among others (Campbell, 2021; Weisser, 2017). For this paper, we use the following definitions:

> ***International education*** is defined as a field involved in facilitating and supporting the migration of students and scholars across geopolitical borders, or the knowledge and skills resulting from conducting a portion of one's education in another country (The Forum for Education Abroad [FEA], 2011, p. 11). International education includes many components, including student mobility, intercultural and language learning, and collaborative online international learning (COIL). In this paper, the term international educator is used to describe anyone who works in this field.
>
> ***Climate change*** is the ongoing, rapid rise of Earth's average temperature that is induced mostly by carbon-intensive human activities. According to the UN (n.d.), the most egregious drivers of climate change are due to burning fossil fuels like coal, oil, and gas.

As international travel and in-person educational activities presumably rebound following the Covid-19 pandemic, so will carbon emissions. This paper aims to illuminate the way those who work in the field of international education view and respond to climate change, examining both their perceptions on the relationship and emotions about working in the field. This research also calls attention to the level of awareness and engagement of international educators; their perspective is essential as they set program agendas and provide input on strategies, advise students, and lead and educate groups overseas. By understanding the ways that international educators perceive climate change, we can take steps forward to reduce the sector's carbon emissions, craft meaningful strategies and communications, and advance the conversation among scholars and practitioners on the role of international education in an era of climate change.

Literature Review

The benefits of international education are numerous and well-documented. For example, Roy, Newman, Ellenberger, and Pyman (2019) cataloged the cultural, personal, and employment or career outcomes of international education. Knight (2012) has noted associated positive aspects of international education on participants' families, peers, universities, and communities. The advancement of technology, transportation, and the use of English as a working and teaching language in the 21st century have also contributed to the popularity of learning across borders (OECD, 2020). With this overwhelming positive evidence in hand, international education has made steady increases in participants over the previous two decades.

Increasingly, with growing awareness of climate change, international education is examining its sustainability practices and contributions to sustainable viewpoints and lifestyles worldwide. A significant project is to align higher education internationalization efforts with the United Nations (UN) Sustainable Development Goals (SDGs). Specifically, SDG Target 4.7

aims to provide "all learners acquire knowledge and skills needed to promote sustainable development" with a specific mention of education for global citizenship (UN, 2015). In addition, SDG Target 4.b explicitly mentions international student mobility through scholarships, "with recipients serving as 'change agents' with a wider worldview, deep understanding of interconnectedness and solidarity among peoples across borders, and the capabilities to address the dynamic and complex nature of current and future global challenges," like climate change (Campbell & Mawer, 2019, p. 180). SDG 13.3 strengthens this point by highlighting the importance of education, awareness-raising, and institutional capacity in climate change mitigation (UN, 2015). As universities and their constituent programs respond to the SDGs, there remains an opportunity to reimagine international education efforts. As Ramaswamy, Marciniuk, Csonka, Colò, and Saso (2021) have argued that the "SDGs can be thought of as a catalyst and internationalization as a response" in today's higher education (p. 390).

In terms of advancing the SDGs and environmentally-friendly practices in international student mobility programs, there is mounting evidence and guidance that international education can teach about global citizenship, environmental practices, and sustainable lifestyles. For example, Wynveen, Kyle, and Tarrant (2012) found that students often learn about global citizenship and their responsibilities to the planet while pursuing education abroad, thereby increasing their understanding of the globe's interconnectedness and the unequal impact of climate change. Han and Hyun (2018) noted that students improved their pro-environmental behavior while abroad, including recycling and considering eco-friendly purchase behavior. Moreover, there is an increasing effort to include sustainability lessons in education abroad courses and pre-departure materials (Bound International, LLC & Earth Deeds, 2021). In terms of advising the field on ways forward, the FEA published *Advancing the United Nations Sustainable Development Goals through Education Abroad* (2021) and CISAustralia published *Green Book: Tips and Resources for Sustainable Learning Abroad* (2020).

A comprehensive picture of whether international education as a professional field is aware of the field's environmental impact – or the extent to which it is in mitigating their carbon footprint – remains murky. First, Shields (2019) showed that international student mobility contributes to gas emissions, with globally mobile students emitting more than the average traveler, and the total carbon production of internationally-mobile students through flight travel is on par with the total carbon emissions of a small country. This work does not take into account short-term study abroad programs, staff or faculty travel, or domestic travel as part of international education programs.

Moreover, completed before the COVID-19 pandemic, Shields' work also doesn't account for the COVID-related rise of online or virtual education in general, and virtual exchange, specifically. COIL and other forms of virtual learning show promise to enhance intercultural and global citizenship education in "third spaces" and without physically crossing borders (Guimarães & Finardi, 2021). Yet Bruhn-Zass (2021) points out that hybrid virtual exchanges have been present in many aspects of international education before the pandemic, suggesting not a "new normal" but a continuation and growth of current practice; yet the paper stops short of suggesting COIL would be a likely replacement for physically crossing borders.

Given these estimates, it is challenging to know the level of concern among international educators, the type of responses made across the field, or the exact carbon outlay of international education today, yet scholars and practitioners are building a more nuanced picture. For example, a recent survey on sustainability practices in international education noted that "the field of study abroad has much room for improvement" in terms of sustainability practices, with "39% of respondents are implementing climate change and carbon consciousness into their pre-departure orientations and materials" (Bound International, LLC & Earth Deeds, 2021, p. 7). Moreover, a recent qualitative study showed that individuals working in international education care about climate change and work to actively reduce their carbon footprint in their personal lives, yet face challenges in their professional settings to carry out

equivalent "green" practices, calling for greater leadership, accountability, and action in their

offices and professional organizations (Campbell & Nguyen, 2022). Arguably, the field of

international education is increasingly turning its attention to climate change.

At the same time, students who participate in international education are showing

significant concern about climate change, greater pro-environmental behaviors while traveling,

and increased anxiety and worry about the planet's future, raising questions about students'

wellbeing and the ethics of international travel (El Zoghbi, & El Ansari, 2014). Reports of climate

anxiety and eco-paralysis are being reported by younger generations, with these concerns

potentially influencing students' desire to pursue education abroad or shaping their program of

choice (Kelly, 2017). However, Verlie (2019) suggests that students and educators should

accept a perspective of "living with" climate change, as opposed to ignoring it or to being

paralyzed due to its immensity. This view aligns with others, like Dvorak, Christiansen, Fischer,

and Underhill (2011), who wrote that international student mobility is not likely to discontinue

and that international student exchange and environmental preservation are a necessary

partnership.

Sustainability-related research is still a nascent subfield within internationalization and

international education literature, although several scholars have investigated how the field is

responding, calling for more critical scholarship (Whitsed, Burgess, & Ledger, 2011) and

additional and considerate investigation on how it should be designed to be more sustainable

and reduce its impact on the environment (Rumbley, 2020). To add to the complexity of these

tasks, COVID-19, social justice movements, forced migration, and mounting financial pressures

continue to influence the international higher education landscape, leading to shifting priorities

and seemingly-constant emergencies. This paper assumes that international education in

general, and international student mobility in particular, will continue to grow and provide

students and communities with numerous benefits, emphasizing the interconnectedness of

people on the planet and the potential for international partnerships and diplomacy to solve

global problems. At the same time, it is open to critique of how and whether international

educators view the relationship between international student mobility and respect and

advocacy of environmental conservation efforts – in short, the compliments and contradictions

between "going global" and "going green."

Specifically, the research question which guides this paper is: How do international

education professionals perceive the relationship between international student mobility and

climate change?

Methodology

This qualitative exploratory research is rooted in social phenomenology (Schutz, 1967),

examining how international educators make meaning and judgements about their own

worldviews and experiences – and those of their colleagues and peers. Additionally, the work

looks to contributions from O'Brien (2018), who argues that responses to climate change require

deliberate social transformation, across three levels of practical, political, and personal

engagement. Our analysis is also informed by Heifitz, Grashow, and Linsky (2009) who

separated change into two categories: technical change – that which can be solved with

additional knowledge, expertise, and information – and adaptive change – which requires new

ways of looking at problems, taking into account individual perceptions and belief systems. With

these frames in mind, interview participants were asked to reflect on their own perceptions and

activities regarding international education and their responses, if any, to the climate crisis. This

approach allows for exploring both points of conflict and synergies across levels of

transformation, as well as technical and adaptive challenges.

To collect data for this study, our team conducted semi-structured interviews with 17

international educators. This population was selected to better understand the perspective of

those who are engaged in the daily work of designing programs and advising students;

international educators often communicate with and influence both leaders who set policies and

students who participate in international education programs. All interviewees had received a Master's degree in international education and most were working in international education as study abroad or international student advisors, overseas program leaders, or program managers. They were located in the U.S. and abroad at the time of interview, although several had just left the field of international education, or been let go from their positions, due to the downturn in student mobility as a result of the Covid-19 pandemic. Each interviewee was assigned a number, which is referenced in the findings.

Semi-structured interviews focused on individual's perspective on climate change in international education, their and their colleagues' behaviors in response to climate change in their personal and professional lives, and how they saw the field of international education addressing the climate crisis. Interviews lasted 60-90 minutes, were held over Zoom, and were recorded and transcribed. Our team used Dedoose for thematic analysis to identify the major themes in response to the research question.

The study has several methodological considerations and limitations. First, interviewees are practitioners in international education, not experts in climate change or climate education, which limits some nuance in our findings. However, this choice was intentional as the goal of the study was not to uncover technical ways forward but to understand the phenomenon of how international educators perceive and respond to climate change. Second, the participants were not selected to be representative of the field and findings cannot be taken as representative views of the field. However, given the exploratory nature of this study, results can provide additional insight into the perceptions of a small group from which larger representative surveys might be constructed. Finally, these data were collected in the United States during the summer and fall of 2020 – a time when Covid-19 pandemic and social justice movements in the U.S. were very active. These events, along with severe forest fires in the western states of the United States, were mentioned by many interviewees although they were not asked about as part of

the protocol. While these topics don't feature as prominently in this paper, these events likely

provided an influential backdrop to these findings.

Before the findings are presented, a note of positionality: Our research team is

concerned about climate change and its impact on the planet. We also believe in the

transformational experience of international education – that each of us has benefited from –

and a commitment to expand international education more broadly to diverse populations and

generations of future students worldwide. As motivation to conduct this research, we are

increasingly worried about the "business as usual" approach to international mobility for

educational purposes and sought to explore others' perceptions and experiences.

Findings

In response to the research question of how international educators view the relationship

between international education and climate change, findings will be presented in five

categories, outlined below. Each category will provide both a summary of the findings and few

quotes from interviewees to illuminate the qualitative data. Quotes of eight or more words will

include the Interviewee's assigned number. If interviewees' pronouns are used, they are aligned

with the gender reported in their demographics form.

International education as an effective tool to address climate change

All 17 interviewees noted that they had benefited by participating in international

education, which drove them to work in the field themselves. Interviewees spoke of the benefits

of global partnerships, gaining intercultural skills, improving language skills, and growing as

individuals. Some participants had significant overseas experience, while others had only been

abroad through sponsored or full scholarship programs, and most acknowledged their sense of

privilege in getting to participate in international education. Moreover, they spoke about

extending these opportunities more widely available for students worldwide by reducing the costs and other barriers to participation.

Interviewees noted that international student mobility is one solution to climate change as international education can provide students with additional and diverse views, skills, and experiences that allow them to understand climate change and to build skills required to address its impacts. Interviewee 4 summarized it by saying,

> We desperately need more people who understand what it is to understand other cultures and to learn from people who think and live differently. And to, you know, to have more collaboration across cultures, countries across the world, coming up with solutions to the big problems in our world, including the climate crisis.

As highlighted in this quote, interviewees also noted that relationships and a sense of global citizenship were key to addressing climate change. One interviewee said international educators must be and must work with students to be "responsible global citizens," to "take care of the earth," to appreciate "Indigenous ways of living with our planet," and to understand how "other countries have been facing climate impact" – all values which can be cultivated through international exchange.

In addition, many interviewees spoke about their own transformational experiences abroad and what they learned about climate change and sustainable or low-carbon lifestyles. As an example, Interviewee 2 said, "I have very little experience in climate studies and environmental studies. But everything that I've learned about it came from my time living in Japan." She continued that she learned about recycling and from watching the Japanese example of being "very eco friendly and eco conscious. Like they try not to use cars, they try not to use air conditioning, or they always turn off all the lights, anything to reduce their emissions." Another interviewee noted that due to their education, they have a broader sense of how their actions influence the planet, providing this example of a local population:

[People have] seen increased health in their, like coral, and even the cleanliness,

cleanliness of the water [in the bay]. So I think even if you use improper sunscreen that

could have an impact on the water or the health of the coral reefs too. So because there

has been [increased awareness], they've definitely seen that area, like the reef in

general, have more improved health. [This is] putting the awareness into action.

(Interviewee 9)

Moreover, interviewees highlighted the benefits of intercultural learning without crossing

borders. They noted the possibilities of COIL or other virtual exchanges and working with local

organizations, immigrants, and social justice movements allowed students to develop

relationships, gain new perspectives, and build intercultural skills without physically crossing

borders. As evidence, one interviewee noted that international education could take place

locally, asking "Why does it have to take place in another location? And why can't it be done

virtually, with maybe partners who are in different parts of the world?" (Interviewee 7).

International education contributes to climate change

On the other hand, interviewees also saw international education as inextricably linked

with producing carbon and waste by travelers consuming more resources. In response to

international education and conservation efforts, one interviewee said, "of course, they're in

conflict, and how could they ever not be?" (Interviewee 15) and another noted, "the trajectory

that international education has been on before COVID is not super compatible [with

conservation]" (Interviewee 17). While 13 interviewees stated they were familiar with the

relationship between international education and climate change and had given it some

consideration, four interviewees noted that they had not given the topic much consideration.

Yet, at the time of interview, these four individuals agreed that international education led to

negative consequences for the planet. Interviewee 10 said that when she was a study abroad

student, "It was not something that ever really came up. It wasn't, it just wasn't something that I

made a connection between." She continued, "But now it makes perfect sense to me" given the increased focus on environmental preservation in her professional community.

In terms of specific behaviors that harm the environment, most interviewees named long-haul international flights first and as the most prominent factor. They noted that recent efforts to examine and compare carbon output of different flights or to pay carbon offsets were steps forward, yet noted they were unclear on the options or efficacy. In one example, Interviewee 6 said she was confused by the number of ways to offset carbon emissions for themselves and her students and said:

> This brings me back a little to the eco-paralysis that I was mentioning. I myself don't
>
> even know, as a professional or personally, where I want to do my own offset. What's
>
> the best place to do it? I don't think international education professionals are fully [...]
>
> understanding the way we do it at our institutions. This is something handled by the
>
> sustainability office. [...] If we were asking students to do it, and you know, we're not?
>
> And then [we ask students to] do your own Carbon offset and figure out where to get it
>
> yourself.

Several other interviewees noted that carbon offset fees would also increase the cost of international education and be prohibitive for some students, and most advocated against making them a required part of overseas education.

In addition to flights, interviewees also noted other activities of wasteful travel by "transporting our bad habits" and larger carbon footprints overseas and this behavior having a negative impact on host communities. Reflecting on international education programs in which they participated, Interviewee 1 asked:

> Why do I need to go to other parts of the world and insert myself? There's a lot of, you
>
> know, colonialist kind of feelings around some of the programming we do and some of
>
> the mentality of discovering new places.

Another interviewee stated that many of the students he led in international education programs are "not aware of any of the impact that [they] might do or say, that [they] could ever have on somebody else or on the environment" (Interviewee 17). Interviewees noted specific examples of this "bad behavior" including in-country flights, using private coaches instead of local transit, buying food in single-use plastic, and not understanding local sustainability or recycling programs.

Navigating and rationalizing conflicting perspectives

While a few interviewees had perspectives that fit squarely in one of the two categories above, the majority attempted to balance these two views through various rationales, or altogether ignore the tension at hand. When asked how they managed thinking about the relationship between climate change and international education, Interviewee 14 stated that he hadn't thought of it often, but "Now, it's kind of easy to connect the dots, but I don't think it was never really discussed seriously. It was never really talked about." When discussing this tension in the interview, participants noted that it is challenging to navigate these two perspectives, leading to inherent conflicts and a range of emotions.

One common perspective was that international education would always have a mobility component. Therefore, the task was not to remove long-haul flights and crossing international borders from international education but to reduce the overall impact of this travel through careful program design and responsible choices. Interviewee 15 stated that international education "mobility is never going to completely go away, I don't believe. I also don't believe that it should completely go away. But [it is important to be] really creative and intentional on how you incorporate the mobility piece." Others noted that seeking international exchange closer to home, that which can be reached by train or car, or augmenting programs with virtual programming are good models.

Others reconciled international education's negative impact on the planet by noting that environmental cost was justified. This idea was linked to the notion of return on investment, arguing that students' learning—and the transformation that was made possible—was worth the environmental impact. This notion was tied to the idea that international education cultivates a long term "critical awareness of the globe we're living on" (Interviewee 12) and is an investment in their future. To further this point, one interviewee argued that student travelers had a higher return on the investment on the carbon used compared to vacation or business travelers. Relatedly, several international educators did not view their field as chiefly responsible for climate change or taking a leadership role in the problem, suggesting that corporations or policymakers are more responsible. Therefore, they argued, any changes to reduce international education's carbon footprint were minor blips in the large-scale carbon emission industries of fossil fuels and agriculture.

Most interviewees spoke about the experiences of being abroad, either as participants or as leading groups of students, noting the sustainability choices they had made on behalf of their own travels and for student programs. However, several also highlighted the benefits of facilitating international education as an important way to bring international students and scholars – and their diverse views – to internationalize their campuses. Interviewee 14 suggested investing more in international and diverse students to attend universities as a way to enhance international education without a large increase in carbon, noted:

> There is a lot of opportunity for collaborations [and] creating new ideas by bringing international students to the campus. It's a good way to learn from other countries or cultures [...] so eliminating student mobility [won't] make a good outcome and won't much affect the environment.

Others also talked about the calculations of having more people travel – resulting in greater amounts of carbon – compared to other forms of internationalization, including virtual exchanges, hosting international students, and local engagement. However, most qualified their

responses with concern that making international education more exclusive was not in line with other core values, such as promoting diversity, inclusion, and equity in international education.

Managing complex emotions

Given these ways of rationally considering the opposing views of international education as an asset, and a harm, to the environment, 15 of the 17 interviewees also spoke of the negative emotions related to these inconsistencies and tensions. One interviewee spoke of her belief in the transformational power of international education and wanting to promote it for other students, yet realized that the environmental impacts made her feel "ethically icky." Participants expressed concerns over the perceived reality that their profession, which promoted international travel, was in conflict with their personal values to reduce carbon emissions, support environmental justice, and educate students.

Overwhelmingly, interviewees had many questions about how to understand the impact of international education, stating they didn't know where to go for information to answer their questions. This inability to take action or get more information left them feeling "paralyzed," "disillusioned," "frustrated," and "overwhelmed." One interviewee noted these feelings by saying,

What should I be doing to change to lessen my personal carbon footprint? You know, it's, it's hard to feel like I have ever had enough information. So I've learned something important about, say, eating less red meat and that's better for the environment. And then, you know, I read some think pieces about how just being vegetarian doesn't mean that you're supporting sustainable practices automatically. And oh my god, there's so much to know! Yeah, I don't ever gonna feel like I have a grasp on this and like what I'm supposed to do. [...] So yeah, eco-paralysis speaks to me very deeply.

Moreover, interviewees felt defeated, noting that "it's hard to keep up with everything" in terms of sustainability practices in international education, especially at a time when there are so many other demands on the field. Therefore, interviewees perceived, the absence of action

within the field was not a lack of awareness of the problem, or disinterest; in fact, many

explained extensive personal engagement in environmentally-responsible activities. Instead, it

was simply not knowing where to find reliable evidence and what would be the right course of

action to promote both education and the environment.

In addition, many noted a feeling similar to guilt or grief for having benefited from their

own international education experiences, calling it transformative yet acknowledging that it was

likely due to economic and racial privilege that they had these experiences. Interviewees noted

that they feared the harm they had previously caused the planet or worried that they were

promoting fewer international education experiences for others, while they firmly believed that

more diverse and low-income students should have access to international education. To this

point, Interviewee 1 said, "I feel like I had these really powerful, you know, growth experiences

as a young person" noting the role of international education. She continues, "So it's really hard

to advocate for people not to go do those things, and that's kind of hard to carry both at the

same time." Overall, when asked how they explored the ideas of working in international

education and also addressing climate change, most interviewees stated that their emotions

were negative.

Opportunity to imagine international education for the future

Alongside these rationales and emotions, 13 of the 17 interviewees did not resign

themselves to their feelings of being overwhelmed yet identified these complexities as an

opportunity to reconsider international education and shape it for the future. This vision for the

future was influenced both by climate change concerns and also by social and climate justice

values, with the majority of interviewees stating that international education – and the

experiences, relationships, skills, and benefits it affords – can and should be accessible to more

people.

Overwhelmingly, online activities were most commonly mentioned as ways to increase international partnerships and learning without travel, through programs like COIL. Interviewees also suggested new approaches to reduce the amount of travel, travel distance, or length of stay, such as using online programming at the beginning and end of overseas experiences. Seeking new partnerships in the local community for exchanges was also mentioned. Interviewees noted that they, and the field in general, need to think more of creative alternatives to traditional programs – many of those strategies are being designed or are in pilot stages now. Interviewee 7 stated "going abroad is maybe like the fastest way to learn new perspectives and new mentalities and new ideas and, and, you know, it's really like a rapid change, I think, but it's not the only way." They went on to say that in the future, the default mode for international education should be virtual first, having to justify why plane travel is necessary for student learning.

With more information, guidelines, and examples on how to "green" international education, interviewees agreed that action would be taken, it was just a question of what types and when. As evidence, one interviewee said:

> [International education is] a field with professionals who are really passionate and want to have a positive impact. And I feel like it would be a field that's really open to learning more about this and trying to make programs more environmentally sustainable.
> (Interviewee 11)

Moreover, Interviewee 10 made the point that it is important to share the environmental knowledge and practices with students and then see what students do over time, since they are "the next generation [and] they're going to end up making more change." Overall, interviewees were keen to make changes towards preserving the environment, yet were unclear on best strategies or plans to reimagine international for the future.

Discussion

When asked how they perceive the relationship between international education and preserving the planet, interviewees reported that these two values both complemented each other *and* were in conflict. They noted challenges in logically reconciling the relationship between international education and climate change, citing several rationales for why international education should be expanded to more diverse populations despite its contribution to greenhouse gasses. However, this tension of being aware of their field's role in heating the planet spurred mostly negative emotions about feeling stuck, frustrated, and overwhelmed. Interviewees reported they wanted a way forward to promote and support international education while decreasing the field's negative impact on the planet, calling for an opportunity to reimagine the field.

This study aligns with other scholars' contributions on how international education can teach students about global citizenship and their responsibilities to the planet while studying abroad (Wynveen, Kyle, & Tarrant, 2012) and learn about sustainable development and lifestyles (Han & Hyun, 2018). At the same time, interviewees recognized points made by Shields (2019) about the contribution of greenhouse gasses by internationally mobile students. Given this, this paper also illuminates this conundrum in international education: that one type of education can both prepare students for the future of a warming planet, while its predominant delivery mechanism of international travel contributes to the problem itself. By examining both sides of this debate – and the rationales and emotional reactions therein – this study tries to tease apart these two realities to contribute to a greater understanding of international education.

Noticeably, by acknowledging that both realities are true, international educators felt confused and overwhelmed. Many of their emotions aligned with what other scholars like El Zoghbi and El Ansari (2014) and Kelly (2017) have noticed in university students who participate in international education: feelings of concern, anxiety, and worry. Much like responsible program design and educating about sustainability and climate change,

international education must also include recognition of these emotions in students and staff. This also includes ways to understand and educate people to live with climate change (Verlie, 2019) and managing the related anxiety. Without these approaches, negative feelings could easily dominate instead of innovations and new approaches in the field.

On this note, interviewees also stated a dedication to find meaningful ways to tip the balance so that international education can find solutions to climate change – what Heifitz calls both technical and adaptive solutions – to reduce its impact on the environment while still promoting sustainability and environmental preservation. International education is, and should continue to, make better, "greener" choices in existing programs and further develop meaningful alternatives to long-haul plane travel; these efforts include local partnerships, COIL, and other virtual programs. As one interviewee suggested, the default for international education could be virtual exchanges and partnerships – and any international travel must be justified.

Implications and conclusion

This research points out that international education as a field is still in the nascent stages of reconciling its impact on the planet, creating pathways forward to improve, and considering both adaptive and technical approaches in this era of climate change. As scholars, practitioners, and students all put forward new ideas and practices to ethically promote international education on a warming planet, this paper points to a few implications for future research and practice.

In terms of practice, additional work is called for in terms of acknowledging the impact of international education on the planet and on the emotions of those who pursue study abroad and lead these programs. This will include a multitude of technical solutions to mitigating the impact of current programs (often referred to as "greening" efforts) and considering ways to have a positive impact on the hosting environment (often referred to as "regenerative" efforts). This could also include support for additional local partnerships, increase in service-learning and

study away programs. New thinking is needed–perhaps from those deeply immersed in climate

change mitigation strategies and practice–for adaptive solutions to reimagine international

education without frequent long-haul flights and high rates of waste. This effort includes

designing programs that do not require international travel yet have equivalent learning and

social impact, while reducing carbon emissions and typical Global North student exchanges. For

example, study away, service-learning, and online co-curricular programs that partner with

agencies serving underprivileged populations can encourage students to think globally in local

situations.

Importantly, these programs may also extend opportunities for students worldwide,

enhancing inclusion and social justice outcomes of international education. Similarly, for many

interviewees, this adaptive work of reimagining the field had benefits of more than just climate

change: it included prioritizing environmental practices in line with social justice, climate justice,

and human rights. Interviewees noted that these challenges were intermingled and bound

together across borders and central to the education needed for the future, with more students

experiencing international education.

Future research can bring greater insight into international education efforts on

campuses, in partnership with local communities, and through online learning and virtual

exchanges – including comparative studies to better understand learning objectives and

sustainability outcomes with and without travel. Similarly, research can help to illuminate ethical

and responsible ways forward for the field, including how to best incorporate sustainability into

existing programs, augmenting virtual internationalization practices, and exploring new ways of

intercultural learning. Finally, additional research can be paired with this study to acknowledge

the emotional tax of working in international education on a warming planet, thereby providing

additional insights and support for international educators, faculty, and students who are

involved in these efforts.

References

Bound International, LLC, & Earth Deeds. (2021). *Survey of sustainability in education abroad*.

       https://bound-intl.com/wp-content/uploads/2021/12/Survey-of-Sustainability-in-

       Education-Abroad-2.pdf

Bruhn-Zass, E. (2021). Virtual internationalization to support comprehensive internationalization

       in higher education. *Journal of Studies in International Education*, doi:

       10283153211052776

Campbell, A. C., & Nguyen, T. (2022). Engaging international educators in action for climate

       change: Suggestions for individuals, organizations, and the collective. In K. McBride and

       P.-T. Nikula (eds.), *Sustainability in Education Abroad*. The Forum on Education Abroad.

Campbell, A. C. (2021). International scholarships and sustainability. In A. Wiseman (ed.),

       Annual review of comparative and international education 2020, 40. Emerald Publishing

       Ltd. (pp. 257-277). doi:10.1108/s1479-367920210000040015

Campbell, A. C., & Mawer, M. (2019). Clarifying mixed messages: International scholarship

       programmes in the sustainable development agenda. *Higher Education Policy*, *32*(2),

       167-184.

CISaustralia. (2020). *Green book: Tips and resources for sustainable learning abroad*.

       https://www.cisaustralia.com.au/why-cisaustralia/environmental-sustainability/

Dvorak, A. M. W., Christiansen, L.D., Fischer, N.L. & Underhill, J.B. (2011). A necessary

       partnership: Study abroad and sustainability in higher education. *Frontiers: The*

       Interdisciplinary Journal of Study Abroad, 21, 143-166.

El Zoghbi, M. B., & El Ansari, W. (2014). Ethical concerns and contributions in response to

       climate change and the links to well-being: A study of university students in the

       Netherlands. *Central European journal of public health, 22*(2), 118-124.

FEA. (2021). *Advancing the United Nations Sustainable Development Goals through education*

       abroad. https://forumea.org/wp-content/uploads/2021/02/SDG_2-21_FINAL-1.pdf

FEA. (2011). *Education abroad glossary*. https://forumea.org/wp-

content/uploads/2014/10/Forum-2011-Glossary-v2.pdf

Guimarães, F. F., & Finardi, K. R. (2021). Global citizenship education (GCE) in

internationalisation: COIL as alternative Thirdspace. *Globalisation, Societies and

Education*, *19*(5), 641-657.

Kelly, A. (2017). Eco-anxiety at university: Student experiences and academic perspectives on

cultivating healthy emotional responses to the climate crisis. Independent Study Project

(ISP) Collection, School of International Training, 2642.

https://digitalcollections.sit.edu/isp_collection/2642.

Han, H., & Hyun, S. S. (2018). College youth travelers' eco-purchase behavior and recycling

activity while traveling: An examination of gender difference. *Journal of Travel & Tourism

Marketing, 35*(6), 740-754.

Heifetz, R. A., Grashow, A., & Linsky, M. (2009). *The practice of adaptive leadership: Tools and

tactics for changing your organization and the world*. Harvard Business Press.

Knight, J. (2012). Student mobility and internationalization: Trends and tribulations. *Research in

Comparative and International Education*, *7*(1), 20-33.

O'Brien, K. (2018). Is the 1.5 C target possible? Exploring the three spheres of transformation.

Current Opinion in Environmental Sustainability, *31*, 153-160.

OECD. (2020). What is the profile of internationally mobile students? *Education at a Glance

2020: OECD Indicators*, OECD Publishing. https://doi.org/10.1787/974729f4-en

Ramaswamy, M., Marciniuk, D. D., Csonka, V., Colò, L., & Saso, L. (2021). Reimagining

internationalization in higher education through the United Nations sustainable

development goals for the betterment of society. *Journal of Studies in International

Education*, *25*(4), 388-406.

Roy, A., Newman, A., Ellenberger, T., & Pyman, A. (2019). Outcomes of international student

    mobility programs: A systematic review and agenda for future research. *Studies in*

    Higher Education, 44(9), 1630-164.

Rumbley, L. (2020). Internationalization of higher education and the future of the planet.

    International Higher Education, *100*, 32-24.

Shields, R. (2019). The sustainability of international higher education: Student mobility and

    global climate change. *Journal of Cleaner Production*, *217*, 594-602.

Schutz, A. (1967). *The Phenomenology of the Social World*. Northwestern University Press.

Terrenoire, E., Hauglustaine, D. A., Gasser, T., & Penanhoat, O. (2019). The contribution of

    carbon dioxide emissions from the aviation sector to future climate change.

    Environmental research letters, 14(8), 084019.

UN. (2015). Sustainable Development Goals. https://sdgs.un.org/goals

UN. (n.d.). What is climate change? [Website]. Accessed January 13, 2022.

    https://www.un.org/en/climatechange/what-is-climate-change

Verlie, B. (2019). Bearing worlds: Learning to live-with climate change. *Environmental Education*

    Research, 25(5), 751-766.

Weisser, C.R. (2017). Defining sustainability in higher education: A rhetorical analysis.

    International Journal of Sustainability in Higher Education, *18*(7), 1076-1089.

    https://doi.org/10.1108/IJSHE-12-2015-0215

Wynveen, C. J., Kyle, G. T., & Tarrant, M. A. (2012). Study abroad experiences and global

    citizenship: Fostering pro-environmental behavior. *Journal of Studies in International*

    Education, *16*(4), 334-352.

Whitsed, C., Burgess, M., & Ledger, S. (2021). Editorial advisory board members on

    reimagining higher education internationalization and internationalization of the

    curriculum. *Journal of Studies in International Education*, 1028315320984840.