Creative virtual conferencing and networking to advance higher education for sustainable development

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Abstract

What kind of academic conferences do we need for the future? Networks, institutions, and individuals who believe that a decisive move must be made in the direction of sustainable development are increasingly in favour of virtual conferences. They are exploring new formats to ensure that such conferences offer participants the space for creativity, networking, chance meetings, career-oriented self-presentation and coaching, policy-oriented reflection, a sense of place, trust-building, and learning, with a view to shaping higher education for sustainable development in an innovative and convincing way. In this article, we present the path taken by the COPERNICUS Alliance and its partners to design two online conferences. We summarize the main insights derived from post-conference surveys. Digitalisation is seen as a great opportunity, although many participants maintain a yearning for face-to-face meetings.

Keywords: higher education for sustainable development (HESD), networking, virtual conferencing, safe space, transformative learning

Ustvarjalne virtualne konference in mreženje za pospeševanje visokošolskega izobraževanja za trajnostni razvoj

Povzetek

Kakšne akademske konference potrebujemo za prihodnost? Omrežja, institucije in posamezniki, ki menijo, da je treba odločilno premikati v smeri trajnostnega razvoja, so vse bolj naklonjeni virtualnim konferencam. Raziskujejo nove formate, da bi zagotovili, da takšne konference udeležencem nudijo prostor za ustvarjalnost, mreženje, naključna srečanja, karierno usmerjeno samopredstavitev in poučevanje, usmerjeno razmišljanje, občutek za okolje, izgradnjo zaupanja in učenje z namenom oblikovanja visokega šolstva. za trajnostni razvoj na inovativen in prepričljiv način. V tem članku predstavljamo pot zveze COPERNICUS in njenih partnerjev do oblikovanja dveh spletnih konferenc. Povzemamo glavna spoznanja, pridobljena iz po-konferenčnih raziskav. Digitalizacija je odlična priložnost, čeprav mnogi udeleženci hrepenijo po osebnih srečanjih.

Ključne besede: visokošolsko izobraževanje za trajnostni razvoj (HESD), mreženje, virtualne konference, varen prostor, transformativno učenje

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1 Conferences: key for research, networking, and careers – but climate-unfriendly

Academic conferences are a crucial space for networking, learning, exploring, innovating, and career-building. This is why the COPERNICUS Alliance (CA), a European network of universities and colleges committed to transformational learning and change for sustainable development, devotes great efforts to support the organisation by its members of interactive annual conferences on topics relevant to higher education for sustainable development (HESD). Through its conferences and other activities, the CA offers member institutions the possibility of joining forces and exploring new paths for integrating Education for Sustainable Development (ESD) into the higher education landscape, in a way that truly moves the agendas of sustainable development, the Sustainable Development Goals (SDGs), and ESD forward (www.copernicus-alliance.org). When preparing conferences, the CA usually works with like-minded networks and partners. This contributes to building synergies between activities and increases the reach of events, including in the field of policy (Dlouhà et al., 2018). Thus, the 2020 CA conference, entitled "Higher Education Summit 2020" (HES2020), was a collaboration between three networks and two universities dedicated to promoting education and research for sustainable development.

In recent years, academic conferences have been increasingly criticized as the source of CO_2 emissions (Le Quéré et al., 2015; Janisch & Hilty, 2017); efforts to support the "flying less movement" have grown significantly, though not without criticism (Langin, 2019). In addition, conferences that require long trips are also criticized for their potential negative impact on personal health and family life. Last but not least, concerns are raised about the fact that researchers around the world do not all have the same opportunities to participate in such conferences (Le Quéré et al., 2015). In January 2019, the CA's leadership team, therefore, proposed to conduct the annual event as a *pilot online conference* and assess whether this format could be offered in alternation with a face-to-face format every second year. According to participants, the 2019 COPERNICUS Alliance Online Conference (9–11 Sept. 2019) was a success: 85 % rated the conference as good to excellent. The post-conference survey also revealed that 81 % of respondents thought the alternation between online and face-to-face format should become a reality, while 15 % even suggested that all future CA conferences should be only virtual. Consequently, the CA conference for the following year (HES2020, 31 Aug.–2 Sept. 2020) was planned as a face-to-face event that was to take place at the host institution in Bern, Switzerland. Due to the Coronavirus outbreak, planning for the HES2020 was modified in March 2020 and the event was held as a virtual conference again. This time, 80 % rated the conference as good to excellent, but only 11 % said they would prefer to attend an *online* CA conference in 2022; 44 % were hoping for a face-to-face conference and 39 % mentioned they would prefer a hybrid format.

In this paper, we first outline how the pilot online CA conference was organized in 2019 and how participants assessed the different formats.[1] We then explain what the original rationale of the 2020 conference was, who the organizers were, what formats they designed to achieve the conference's aims, and how these face-to-face formats were transformed into virtual mode. Here, too, we provide results from a post-conference survey that show how participants assessed the conference and its potential to support the needed transformation towards sustainable development in higher

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[1] Methodologically, the two surveys were designed as online surveys containing closed and open questions. Questions were the same in both surveys only where appropriate. The results were not submitted to statistical analysis; indeed, this was not the purpose of the surveys. Moreover, the samples were too diverse for correlational analysis. The total number of registered conference participants in 2019 was 90 from about 30 countries; 27 filled out the survey. The total number of registered participants in 2020 was 230 from 35 countries; 56 filled out the survey.

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education. We conclude with a discussion of challenges and opportunities of digitalisation for academic conferencing.

2 A CO₂-light pilot: the 2019 COPERNICUS Alliance Online Conference

The 2019 COPERNICUS Alliance Online Conference, entitled "Reaching out for the stars: Consolidating the HESD constellation", purported to be co-creative, action-oriented, and focused on "next practices", in addition to being free of CO_2 caused by travel and accommodation (www.copernicus-alliance-conference-2019.com).[2] From the perspective of sustainable development, it was thus innovative and responsible. Instead of offering a series of keynotes and papers to be listened to rather passively by conference participants, it tried to engage contributors and participants in reflective processes and interaction in three different formats: "Deep Space" sessions, "Next Practice" workshops, and "Co-creation Labs". A call for submissions was issued for the latter two formats while expert speakers were invited for the first format. Additional features were a closing session with feedback from facilitators and moderators, and a virtual marketplace with downloadable materials.

The "Deep Space" sessions invited participants to meet thought provokers and star practitioners seeking to transform the higher education landscape; ten days before the conference started, participants were offered the possibility of watching 15-minute videos prepared by the speakers. Less than half of the participants (48 %) took advantage of this opportunity. They were also encouraged to participate in an online forum ahead of the conference; only very few did so, but 67 % of survey respondents mentioned that they would do so in future, indicating substantial potential interest in pre-conference interaction. During the conference, the thought provokers were paired and invited to engage in a conversation about their main points; participants were able to submit questions in a moderated chat, an opportunity that was taken advantage of and led to interesting insights according to some survey respondents. The level of satisfaction with this type of session was nearly unanimously high to very high: only one person found the Deep Spaces only "OK" and no one expressed dissatisfaction.

The second format was also designed to generate interaction: rather than invite contributors to submit "best practices", i.e. to share what is working well in one institution so that it might be reproduced in another, the organizers asked them to submit "next practices". A "next practice" is about critically reflecting on how our current practices could work differently, more efficiently, more powerfully, thinking about failures, and taking into account future contexts and scenarios. It is about the process and not the final output (Wals, 2010). Groups of two to three "next practices" were briefly presented at the beginning of 90-minute sessions. A facilitator asked the presenters to end their talk by pointing out challenges they had met, so that participants in the sessions could then engage in a discussion about these challenges and possible solutions. Here, satisfaction with the conference format was less high: of those who took part, only 73 % were satisfied or very satisfied, the rest found the "next practices" OK. No one was dissatisfied.

Co-creation labs were defined as communities of inquiry and practice that involve participants in collaboratively exploring a specific HESD challenge, developing ideas to address it, and testing innovative actions. Contributors whose proposal was accepted were offered a 90-minute session that they were free to shape as they wanted, as long as they delivered a report on the session and on what had been co-created. Satisfaction with this format was on the whole (87%) high to very

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[2] In fact, a virtual conference cannot be considered "carbon-free" at all, since it requires a substantial amount of energy to create the virtual environment (see for example the report on "digital sobriety" produced by the EPFL in Switzerland: Digital sobriety is now a top priority at EPFL - EPFL).

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high, with only very few saying their experience was only "OK". In one case, a co-creation lab even led to intense subsequent activity. This eventually led to the submission of a proposal and to the drafting of a scientific article, thus testifying to the effectiveness of the format. Most of the persons who participated in the co-creation lab initially did not know one another.

Asked about their experience with technical matters, a few respondents showed dissatisfaction with the conference platform (Adobe Connect), with which many were not familiar. But survey respondents found the guidance through the programme offered by the conference organizers, the moderators, and the facilitators good to very good, thus confirming that the effort devoted to guidance was worth it. Given the obvious need for support with virtual conferencing, the CA decided to publish *Guidelines for Virtual Conferencing* (Diethart et al., 2019); download statistics and extensive individual feedback show that this is a welcome document.

3 Broadening alliances and creativity through an expanded network: the Higher Education Summit 2020 (HES2020)

For its annual conference in 2020, the COPERNICUS Alliance had planned a face-to-face event hosted by the University of Bern; it initiated a strategic collaboration among three networks (two of which are Swiss) and two Swiss universities:

● COPERNICUS Alliance

● Swiss Academic Society for Environmental Research and Ecology (saguf)

● Network for Transdisciplinary Research (td-net) of the Swiss Academies

● University of Bern

● University of Lausanne

The five partners agreed on the following rationale for the conference topic: *Higher education institutions in Europe acknowledge the urgent need for rapid and radical transformation towards sustainable development and agree that higher education has an important role to play in this process (Lozano et al., 2013; Sterling 2004). But how can this role be assumed, what values should guide the process, what should be transformed, how, and who should lead and who be engaged? Suggestions and models providing orientation and guidance exist (Lambrechts et al. 2018; Mulà et al. 2017; Scott et al. 2012), but they remain niches, often nested at institutional levels that are disconnected from relevant larger-scale, standard-defining quality and policy bodies (Fadeeva et al. 2014).*

Accordingly, the co-organizers settled on six conference challenges summarized in one question: "How can we assure quality and transformative learning for sustainable development?" The conference had two major goals: the first was to find scientific and practice-oriented answers to the complex title question and the second was to bring together individuals from communities who do not otherwise meet and mingle, and to enable them to discuss the challenges and possible solutions together. Indeed, meeting across disciplinary and sectoral borders is essential to advance the ESD agenda (Peters and Wals, 2016).

4 HES2020 becomes virtual

As mentioned above, circumstances forced the organizers to change plans at short notice and to move from a face-to-face conference to a virtual conference. All face-to-face formats had been designed to ensure maximum mingling of communities and maximum engagement of participants in interactive activities, in addition to show-casing interaction between science and society in concrete sustainability and trans-disciplinarity initiatives. The organizers decided to maintain all

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formats and to find ways of ensuring that they would work in virtual format. Table 1 summarizes how the formats were transferred from face-to-face to virtual format.

Table 1: Transformation of the conference formats due to the onset of the Corona crisis.

Originally planned format	Virtual format
Keynote discussions: roundtable format with the involvement of the audience using a large cube with an integrated microphone that could be thrown from one participant to the next.	Keynote discussions; the speakers were asked to provide 15 min pre-conference videos that were made available to participants 10 days before the event. In the live sessions, three speakers per keynote discussion first briefly presented key statements, then discussed issues guided by a moderator, then responded to audience questions listed in the chat and forum.
Evening Keynote followed by apéro.	Live Evening Keynote, followed by meetings in random breakout rooms; the keynote speaker provided articles and handouts for ESD practices in advance.
–	Covid-19 Roundtable to reflect on challenges of the lockdown in higher education with representatives of academics, students, university leaders, and the IAU Secretary General.
Solution Rooms: facilitated exchanges on challenges met by "next practice" presenters, followed by discussions with participants.	Solution Rooms: facilitated exchanges on challenges met by "next practice" presenters. 4-2 weeks ahead of the conference, facilitators were offered the possibility of meeting their presenters with a technical host, in order to get to know each other, try out the virtual room where the workshop would take place, and plan the session together.
Co-Creative Labs: freely designable spaces in which to try out a method and discuss a conference topic, with a view to co-creating with registered participants.	Co-Creative Labs: 6-4 weeks before the conference, all lab organizers were offered the opportunity to meet with a technical host to try out various virtual environments in which they planned to host a co-creative activity. They were given access to their virtual rooms to be able to shape them as desired. A variety of software solutions were used, with individual contributors and the technical hosts spending time together to ensure compatibility with the virtual room.
Poster Market: foreseen in separate areas in the Foyer, with groups of posters and space for discussions.	Poster Plaza: all posters were available online in advance as a flip show, using an attractive standardized format; during the conference, each poster author was given 60 seconds to present their key message, after which participants could choose break-out rooms where they met the authors of small groups of posters.

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Network Meetings as side events, on demand	Network Meetings: virtual rooms for independent network meetings were provided on demand. Here too, preliminary meetings with a technical host to clarify technical and organizational matters were offered. After the HES2020, meeting organizers were sent a list of attendants including emails, made available after prior consent of participants.
Speed-Dating/Partnership market: foreseen in a large space, with prior bookings.	Book an expert: participants were given an opportunity to book a 20 min one-on-one online meeting with an expert.
Excursions to sustainability initiatives in Bern.	Virtual excursions: five filmed stories featuring members of sustainability initiatives in the city of Bern were pre-recorded and made available in advance. A common question drove the discussions during the excursions: what is the role of science in helping to advance the specific sustainability initiative? During the conference, participants could choose the room where a specific video was shown and discussed with 2–3 persons from the organizing and the excursion teams. In some cases a representative of the initiative was present as well.
Harvesting and Visual summary: summary of main feedback from facilitators, moderators, and audience + artist's summary of the whole conference.	Harvesting and Visual summary: facilitators and moderators were asked to post feedback on a virtual whiteboard (Mural), and participants were invited to provide feedback on another whiteboard; this became the basis for a brief presentation by one of the organizers. In addition, an artist explained his large visual summary of the conference by panning through sections of it.

While most participants generally expressed great appreciation of the programme, one explicitly warned against overdoing things: "I think the programme was too heavy for a virtual conference. I personally think it is kind of a mistake to try to reproduce online the exact same features and programme as a face-to-face conference. The format of a virtual conference should be rethought from scratch, probably lighter, with less compact days."

One of the challenges faced while rethinking the programme was to find a means of enabling personal exchange in the virtual setting. Slack, a virtual chat room, was introduced to this purpose, with various discussion channels. However, although the forum was open prior to the conference so that participants could start discussing the keynote videos and other material that was sent out before the conference, the forum was used only by few participants, who did, however, use it intensely. Such a forum can be beneficial but it has to be integrated in existing tools rather than offered using another technology, or the additional tool must be known to a majority of participants and it must be actively moderated by the organizers. Some participants mentioned this in their feedback, and only 25 % of survey respondents said that they had been on Slack.

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5 Insights from the survey

The feedback on the HES2020 was very positive, as expressed in the chat during the conference, in e-mail feedback, and in a number of survey responses. According to some detailed feedback, the simple but very informative website was praised as providing a good overview of the whole conference. The organisation in the run-up and especially the (technical) support during the conference were much appreciated as well. This illustrates that preparation is key, perhaps even more so for virtual conferences.

However, for a large number of participants (over 60 %), as compared to a physical setting it was harder to stay focused and concentrated all day in the virtual setting. Also, networking between participants proved harder than during a face-to-face conference: nearly 65 % of participants mentioned that it was more difficult to engage in discussions or even start informal conversations. By contrast, a high proportion of those participants who were able to book a "meet an expert" session were satisfied or very satisfied: this seems to have provided exactly this opportunity, but only for very few participants. One participant mentioned that the lack of "corridor talks" made it hard to feel and stay committed to the conference, others missed options for virtual coffee breaks in break-out rooms. A number of solutions have recently emerged to improve networking in virtual space, often requiring separate platforms. Though several respondents complained about the lack of personal touch and connectedness in the virtual space, the fact that many participants exchanged in the chat about their personal backgrounds and had the possibility of activating their cameras in the smaller sessions gave them a sense of getting to know the people behind the faces on the screen. Indeed, one respondent mentioned: "I found the connections super – as in a real conference, I was able to connect with four other people with whom to pursue further projects! That is trust-building – also virtually." Nevertheless, it is likely that we still need to learn to handle networking at virtual conferences as a new reality.

Several researchers from the global South who usually face great difficulties travelling long distances due to lack of financial means were grateful to have the opportunity to attend an international conference organized by Europeans. In this second survey, some respondents pointed out once again that virtual conferencing is far more ecological than face-to-face conferences, and that it provides opportunities for parents with young children to attend important events without organizing complicated and costly child care. On the whole, the lower conference fee, avoidance of airfare plus accommodation costs, and avoidance of carbon emissions for travel were considered a great opportunity for scientists with low budgets.

One conference participant summarized a number of insights and positive views in the following way:

> *Apart from the content, the mere fact of doing this all online was a transformational learning experience. I found it also refreshing to be able to connect to other people like this – it worked very well. Moreover, it proves that such virtual conferences are not only possible, but highly creative, despite some evident "childhood problems" with the technology, etc. What is truly transformative – personally and generally – is that (1) such virtual meetings are very inclusive from a stakeholder perspective, allowing participants to join also from far off places and with limited financial resources. (2) It makes it easier to join, even if you might have to be in another important meeting for a session. And (3) it is far, far more ecological than hundreds of people flying off to far places, staying in hotels, etc. Frankly, I think it's the future, especially as technology and our didactical skills evolve further. Any resistance is merely habit and our "addiction" to the coolness of travelling. Given the seriousness of the ecological issues*

> *that stem from travel, it is the way to go, and you did a fantastic job – as trail blazers here – at making it happen!!! Thank you.*

6 Conclusions

Overall we conclude that switching to a virtual format rather than postponing or cancelling the conference was an excellent decision because it opened up many new possibilities, led many of us to reflect on conferencing habits, and allowed us to learn about unexpected advantages of the virtual space as well as challenges that need to be taken into account in future. Exchange about emerging online solutions and creative facilitation methods was also possible and led to cross-pollination.

It was also exciting to see that a large proportion of survey respondents agreed that the virtual HES2020 conference provided opportunities for transformative learning (somewhat: 60 %, a lot: 32 %). The majority (66 %) even affirmed that trust – a central condition for transformative learning – was built in the virtual format (Zimmermann et al., 2021). On the other hand, it became evident that space for informal and random exchange was felt to be really missing; securing such space is essential for allowing serendipity to emerge – a key component of satisfactory relations experienced at face-to-face conferences.

Excited by the already existing possibilities, we are curious to learn how new emerging technologies and improved conferencing and facilitation skills will enable us to overcome these weaknesses of virtual conferences in future. Many academic societies are currently experimenting with such formats and seriously considering partial or full virtual participation at conferences and other events in the post-Corona future; this is bound to deliver new learnings.

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