Realizing an online conference

Organization, management, tools, communication, and co-creation

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This paper aims to assist future organizers of international online conferences with designing and realizing these events. On the basis of the authors' experience of having to move a corpus linguistics conference – originally planned as a physical event – into the digital space, this paper describes the conference's organization and management structure, outlines the software and communication tools used and sketches what is important to foster interaction and discourse among participants. The paper contains a manual and a checklist for preparing an online conference, and a discussion of the chances of online and hybrid conferences in terms of outreach, Open Access and co-creation. It ends with an appeal to colleagues to devise conferences with courage, develop new ways of transferring linguistic research findings (to the public) and to move out of their comfort zones to sustainably use the digital transformation for innovative paths of exchanging research findings.

Keywords: online conferences, digital transformation, digital collaboration, Open Access

1. Introduction

On March 11th, 2020, the German government strongly recommended cancelling larger events where people were supposed to meet in person due to SARS-CoV-2 spreading rapidly and the Corona crisis severely aggravating. This was the beginning of more than 12 weeks of unprecedented lockdown and social distancing in Germany due to the pandemic. As conference organizers of the 41st conference of the International Computer Archive of Modern and Medieval English (ICAME; see <http://icame.uib.no>), our duty was to act responsibly and in solidarity in order to protect us all from the Corona virus.

Appendices available from <https://doi.org/10.1075/ijcl.00028.bus.additional>
<https://doi.org/10.1075/ijcl.00028.bus>

International Journal of Corpus Linguistics 25:3 (2020), pp. 322–346. ISSN 1384-6655 | e-ISSN 1569-9811

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In agreement with all stakeholders, we decided that the conference could not take place at the English Department of Heidelberg University in the anticipated physical conference format. We had already taken some precautionary communicative and organizational actions and regularly updated conference participants on the state of our planning – using circulars, social media, and our website. The ultimate decision was difficult due to the risks involved: to cancel all planned academic and social events, to consider additional costs and cancellation fees, to disappoint all people who had spent so much time and effort to create an unforgettable conference and to destroy hopes of all researchers.

Ultimately, all of these considerations confirmed that – after almost three years of designing and planning the conference – we did not want to cancel the conference altogether or shift it to a later date. We were determined to fight COVID-19 our way, to be courageous and to grow with this challenge. More importantly, we wanted to make sure that all of the inspiring projects, submitted as full papers, work-in-progress reports, poster presentations, software demonstrations, and plenaries, could still be shared and discussed by the community on an international level. One specific concern was junior researchers for whom presenting at (international) conferences is crucial. Therefore, we decided that the conference would move to a digital space on the same dates, with only ten weeks for organizational preparation.

The decision posed a new set of challenges that we had to tackle. Here is our initial checklist:

- i. to devise the structure and formats of the online academic program as well as its output both in terms of asynchronous and synchronous live online events,
- ii. to provide contributors with information on how to adapt their contributions to the new formats,
- iii. to manage a consistent look and feel for the conference through communication and corporate design,
- iv. to plan online social activities,
- v. to think about whether the team was fully equipped in technical expertise to solve the various challenges ahead,
- vi. to set up the communication platforms and strategies that would allow us to effectively communicate both internally and externally,
- vii. to set up netiquette rules and procedures for our communication channels,
- viii. to set up guidelines for chairing online sessions,
- ix. to set up a conference platform for the online videos,
- x. to adapt the conference management tools for the new digital formats,

- xi. to consider legal issues, particularly regarding copyright and data protection,
- xii. to think about how to record live events and how to edit these recordings quickly and efficiently,
- xiii. to think about the budget and the revised conference fees, and
- xiv. to think about how to evaluate the new online conference format.

Our aim was to not just make do with a makeshift emergency replacement, but we wanted to realize a digital conference in its own right. This included an exciting academic program featuring five livestreamed plenaries, a live discussion panel *At the Tipping Point: To Be (Public) or Not To Be (Public) in Corpus Linguistics* as well as a two-day design thinking workshop titled *Corpus Linguistics Goes Public*. In order to accommodate all of our participants and for various other reasons such as differences in time zones, most events were recorded for asynchronous binge watching. In addition to the synchronous live events, we featured two pre-conference workshops as well as more than 80 pre-recorded presentations – many of which we were also able to make accessible to the public.

Additionally, it was important to facilitate social exchange and provide an immersive social and interactive conference experience despite the digital nature of the event. The first measure we took was providing a *Slack* (Slack, 2020) workspace¹ as a shared social platform for all participants. In addition, we managed to have various online social activities including smaller break-out sessions and a “pub quiz” using *Zoom*² (Zoom, 2020) (see Appendix A for a list of software and tools we used).

In order to take as much away from this experience as possible, we conducted a survey-based evaluation ($n=80$) of the conference at the end of the event (see Appendix B). The results of this survey will be presented in the different sections and enriched by our qualitative observations to provide insights into what worked, as well as some of the challenges we faced.

With this “multi-genre” paper we aim to provide a report, a manual, and a narrative with bits and pieces of research, facts and figures for all colleagues in the

1. *Slack* is a commercially available communication platform providing both public and private chat rooms (called channels) as well as a rich set up of other features for communicating and sharing materials (e.g. voice chat).

2. *Zoom* is a commercially available cloud-based video conferencing solution. Video conferences, called meetings, are held in “rooms” created by someone holding a *Zoom* account. Participants, with or without an account, can join these meetings using either a specific link or a meeting number and a password. During meetings, participants can be temporarily moved into so-called break-out rooms – smaller rooms for group activities. *Zoom* also features a rich set of moderator functionalities as well as a fully featured chat system.

field and beyond who would like to organize similar online events. Our aim is also to do more than just report: we would like to establish what could be called “experience as method” because readers will see that it is through our unique and first-time hands-on experience that we made this event happen. On this basis, it could be argued that experience serves as a basis for the methods suggested here. We were not able to meet in person during the “hot phase” – as we say in German – of the organization of the new format. In other words, the conference was organized remotely. It can be done, even under these specific circumstances, which has severe consequences for how we realize (corpus linguistics) conferences in the future. This is an aspect to which we return below.

2. Embracing true digital transformation for an online conference

To bring the conference – an established and beloved conference with many traditions – to the digital space, there are essentially two approaches: (i) “translating” the physical format as closely as possible to the “original” into the digital space or (ii) “transforming” the conference into something new that was specifically designed for the digital space and its affordances. Ultimately, we opted for a hybrid solution because we wanted to keep ICAME as “ICAMEy” as possible while not falling into the trap of designing a conference that tried (badly) to emulate a physical event. Of course, we also had to take into account the very short timeline, which certainly influenced many of our decisions.

In the following, we want to shed light on all types of events and contributions that we included in the program. In doing so, we are going to describe how we did it, why we did it that way, the challenges we faced, and the results of our evaluation.

2.1 Presenting the new online program: Synchronous and asynchronous events

To create an interesting academic program across time zones and to limit the technical difficulties of running and recording multiple parallel live sessions, we opted for a hybrid schedule consisting of both asynchronous (i.e. pre-recorded) and synchronous live events via *Zoom*. While we considered the possibility of hosting a completely asynchronous conference, we wanted to ensure that we and all delegates would come together, virtually, at least once a day and that the spirit of a shared conference experience would be kept.

We asked our participants about their preferences regarding the conference structure after the event. While no one preferred a fully asynchronous format,

95% of the participants preferred a hybrid model. Also, 80% of the participants rated their experience of the live events as either excellent (47.5%) or very good (42.5%). Multiple respondents pointed out that they found the recorded presentations to be very beneficial because they could take better notes and flexibly “attend” more presentations. Participants also mentioned that written asynchronous comments and questions, both on the conference platform as well as on *Slack*, led to better and more thoughtful questions as well as feedback. Some also pointed out that it was much easier for them to ask questions and to contact other participants. For these participants, it seems that the digital form of contact reduced social inhibition and helped to overcome shyness. That being said, there was also a number of people who did not receive feedback on their presentations and who felt that it was rather hard to ask for feedback themselves given the digital, asynchronous format.

Prior to the actual conference, the description of the conference program, which is based on a rough script we devised as well as a *Miro* (Miro, 2020) board, was recorded using *Zoom* and uploaded two weeks before the event. The program and video can be found on the conference website: <https://icame41.as.uni-heidelberg.de/program-digital-conference>. In recording the description of the program, we wanted to increase interest in this event and also encourage our colleagues by our own example, demonstrating that video recording is not “rocket science” and that the results may be somewhat imperfect. Figure 1 shows what the program looked like on the interactive whiteboard.

Figure 1. The *Miro* board used as the basis for our program introduction video

2.1.1 *Synchronous live events*

Ultimately, the conference offered six synchronous presentation and exchange formats – following a set of “netiquette” rules – most of which were also recorded for asynchronous binge watching:

- i. conference opening and closing
- ii. five plenaries/keynotes (one plenary was pre-recorded, but then livestreamed)
- iii. two pre-conference workshops (one fully synchronous)
- iv. the panel discussion *At the Tipping Point: To Be (Public) or Not To Be (Public) in Corpus Linguistics*
- v. the two-day designing thinking workshop for up to 60 participants *Corpus Linguistics Goes Public*
- vi. the annual General Assembly

We are now going to briefly discuss each of these event types. We will not go into too much detail regarding the recording of these events since this will be covered in more detail in Section 2.1.2.

Conference opening and closing

We marked the beginning and end of the conference with two shorter, 20- to 30-minute-long live events. The point of these get-togethers was to frame the conference, to introduce the theme, to test the technology, and to get participants together. These events were conducted via *Zoom* meetings, during which only the speakers were allowed to speak and show their cameras for most of the time.

Regarding *Zoom*, we made the decision to check every single participant against a list of registered conference participants before granting entry to the meetings. This, alongside only propagating links relatively shortly before the actual event via *Slack* and on the general webpage (see also below), was intended to hinder non-registered participants trying to join these meetings. While we actively encouraged Open Access formats for ICAME 41, there was a strong wish by participants to also have closed spaces for conference participants in order to have a safe space for discussion and exchange of materials.

Plenaries

The plenaries worked very similarly to the opening and closing events with the exception of having a moderated question-and-answer session following the event, as well as an introduction by one of the team members. Early on, we explained to the plenary speakers what to expect, which platforms we would be using, and how we were to record the event. We also made sure that the times of the plenary presentations would agree with the respective speakers’ time zones.

Legal issues of copyright, consent forms and provision of slide decks were sorted out in advance. We also had practice sessions with the speakers prior to each plenary talk.

Of the five plenary speakers, four were able to present their plenaries live via *Zoom* and most of them agreed to having their plenaries recorded and uploaded. The fifth plenary was not held live. In order to keep the format consistent, we embedded a recording of this plenary in a live session featuring both a live introduction and a brief subsequent discussion session. Despite the fact that this changed the nature of the discussion, it worked very well, too. We produced internal guidelines for sharing online plenary sessions with participants (see Appendix C).

Finally, we considered the length of these live remote plenary sessions. Since we were aware that it is very hard to stay focused during prolonged video conferences (now sometimes referred to as “zoom fatigue”) – even for those who just listen – we tried to keep the plenaries, including the introductions, below 60 minutes.

Panel discussion, design thinking workshop

The panel discussion *At the Tipping Point: To Be (Public) or Not To Be (Public) in Corpus Linguistics* was a new inter- and transdisciplinary discussion format. The online panel discussion was chaired by Beatrix Busse who discussed with three panelists from inside and outside academia the importance of transferring research results to the public and of interdisciplinary approaches including (corpus) linguistics (see <https://icame41.as.uni-heidelberg.de/panel-discussion> and <https://www.youtube.com/watch?v=SVFa6Vdi4y4> for the recording).

Digitizing this format, we made the decision to have the panel discussion as a fully public event that was being livestreamed via *YouTube* in order to allow as many people as possible to participate. While we considered non-commercial platforms, using *YouTube* as a livestreaming platform meant that we did not have to worry about the potential number of viewers and could also easily provide access to the content afterward. Considering various platforms for livestreaming, we decided on *YouTube* (over, for example, *Twitch* or *Facebook*), because it offers a great livestreaming experience, is known to all participants, and handles user data reasonably.

Technically, the panel discussion was held via a closed *Zoom* meeting with only the host, the chair and the three invited panel speakers. We then streamed this meeting to *YouTube* using *OBS Studio* (Bailey, 2020). We decided against streaming via the *Zoom* client itself in order to give us more control over the stream (e.g. having a “waiting room” before the actual event, optimizing participants’ audio) and having more advanced recording capabilities. We utilized

YouTube's chat function to facilitate the discussion with the help of two moderators relaying questions from *YouTube* and a *Slack* channel to the chair. The technical challenge associated with this approach is that the system streaming to *YouTube* is a single point of failure and that a very stable and fast Internet connection is necessary to stream in high definition. In our case, we had to switch systems an hour before the event due to an unstable internet connection. This resulted in some major unforeseen issues with sound during the first ten minutes of the panel discussion. Fortunately, we had not only relied on *YouTube* for the recording, but also had a secondary *OBS Studio* instance recording the meeting from a different location, which did not show the same sound issues. After the panel discussion, we uploaded this backup footage to *YouTube* instead of the original recording. Based on participants' feedback, the panel discussion was very well received. And as of June 16th, 2020, approximately 620 people have watched the discussion on *YouTube*, which we take as an indicator that there is an audience for such publicly available events.

The design thinking workshop titled *Corpus Linguistics Goes Public* was another new format introduced to the conference. The idea behind this particular two-day format was to collaboratively explore the outreach potential and the impact of (corpus) linguistics in society in interplay with a variety of disciplines. Even before going digital, we had wanted to introduce this new format to the conference to allow participants to collaboratively work on a set of question and challenges in heterogeneous teams. Design thinking, a creative and iterative process that leads to the development of ideas and prototypes strictly based on what potential "users" would need (see Pressman, 2019), was the obvious choice for us since we also wanted to experiment with contemporary creative and agile approaches to research, innovation, design, and problem solving.

During this workshop, which we offered as an additional event for participants willing to pay extra for it, five teams, each including both a professional design thinking coach as well as an additional outside expert giving input, worked on the challenge of rethinking the outreach and transfer potential of the discipline. Since the success of design thinking processes is heavily dependent on the way it is conducted and because we only had two four-hour slots on two days, we decided to cooperate with nextexitfuture GmbH³ as an outside consultancy agency specializing in digital transformation. While this added additional costs, their ability to realize this workshop with us so quickly and professionally and their experience with remote workshops was invaluable to the success of the

3. See <https://www.nextexitfuture.com>. They have also written a brief report (in German) about their learnings based on this particular workshop: <https://www.nextexitfuture.com/unsere-erfahrung-virtuelle-workshops>

workshop. Nextexitfuture not only provided *Zoom* for communication and interaction, but also the *Mural* (Tactivos Inc, 2020) boards for interactive online collaboration and the five coaches who guided the different groups in the design thinking process.

The survey results for this workshop are not as clear-cut as many of the other results. While 54% of participants found the workshop to be excellent (29%) or very good (25.8%), 32.3% said that they found it to be average and 12.5% found it to be not so great (6.25%) or pretty bad (6.25%). Looking at the open-ended survey answers, participants either absolutely loved the workshop or had serious reservations about it. We assume that this, at least in part, is due to the fact that design thinking, especially when done for the first time, can be quite challenging. This, combined with the fact that this was remote only and very heavily timed, could explain why some did not enjoy it as much as others. In addition, at least one participant criticized the fact that the workshop had a focus on commercial and business applications and disregarded outreach to, for example, non-profit organizations. While we acknowledge these issues, ultimately, also looking at the results of the workshop, we are still happy with the outcome of the event. However, it is important to communicate the nature of the workshop in more detail and to provide additional information material beforehand in order to prepare participants and to mitigate the fact that these formats can be quite overwhelming. At the time of writing, about a third of the workshop participants have agreed to work further on the project ideas developed during the two-day workshop.

General Assembly

The ICAME Board wanted to keep the General Assembly, including elections. This was also conducted via *Zoom*. For the election process organized and conducted by the Board, *ILIAS* (ILIAS, 2020) was used. To facilitate the election process, individual codes were sent to participants in order to manage voter eligibility.

Netiquette rules

Netiquette rules (see Appendix D) for the online live events as well as for *Slack* turned out to be very useful. For live discussions we opted for a very simple but effective system; participants could either raise their virtual hand in *Zoom* or ask questions in the chat (prefixed with the keyword: *Question*). The moderator(s) would then either allow the person asking the question to speak up or relay the question to the speaker directly. All plenaries triggered lively and informed online discussions which were continued or even ran in parallel via separate *Slack* channels. Ninety-two percent of our participants found these netiquette rules to be either excellent (56%) or very good (36%). However, we also asked for their experience with turn-taking during the synchronous meetings and while most partic-

ipants found this to be excellent (27%) or very good (56%), 17% had an average (15%) or not so great (2%) experience. Both our experiences as well as these results clearly indicate that it is important to have clear rules and moderation in place since many of the usual conversational markers are not present during online events.

2.1.2 *Recording synchronous live events*

One of our main priorities was to make the digital conference as inclusive and accessible as possible given the limitations we faced. Therefore, we recorded as many of the live events as possible so that those who were not able to attend (e.g. due to differences in time zones) could “catch up” and stay connected with the flow of the conference and other participants. One requirement that arose out of this, and that was validated by many participants, was to get recordings online as quickly as possible, ideally within hours of the event.

We did not use *Zoom*’s recording function, but instead recorded everything using two instances (primary and backup) of *OBS Studio*. The first reason for this choice was that recording using *Zoom* would require specific consent by all participants in the meeting. Since they were not recorded anyway, making consent unnecessary, we wanted to keep things as simple and seamless as possible. Secondly, recording via *Zoom* would introduce a single point of failure (the person recording) as well as reduce flexibility in terms of what was being recorded.

Following the event, we would skip through the main recording to check whether everything was recorded properly. If there were any issues, the backup would be used to replace the whole recording or parts of it. The recordings were then cut in *Adobe Premiere Pro* (Adobe, 2020) (basic trimming, audio optimization, cutting out people other than the speakers for data-protection reasons, cutting out technical issues and waiting times) before we imported them into *TechSmith Camtasia* (TechSmith, 2020) for final editing. There, we then cropped the recording and layered the speaker’s video on top to make it look more like a screencast rather than a *Zoom* meeting. Finally, we added a conference introduction including information about the event to each video. Following these post-processing steps, a low definition version of the video was rendered and sent to at least one other team member, and, if requested, to the speaker for review. Then any requested changes were implemented, and we rendered the recording in Full HD before uploading it to the conference platform. Technically this is a very straightforward process. However, it took away more resources and time than we had anticipated. Looking back, we think it would have been extremely helpful to have a dedicated person or small team for video editing and managing, especially if there had been even more live events.

We also had to consider the legal implications. The two primary concerns here were copyright, i.e. the use of copyrighted materials by the speakers, as well as consent to publish the videos by the speakers. Before the conference, we sent around consent forms to all participants which allowed them to specify how they wanted their recordings and materials to be treated. Due to the fact that these consent forms need to be designed specifically for the requirements of the event and the local laws and regulations, we will not include our forms as blueprints. While this worked out very well, we did not consider the fact that others, e.g. unmuted participants, could become visible during the meetings. This required us to edit the recordings much more carefully in order to make sure to not include anyone who had not provided consent beforehand. For the same reason, the discussions following the events were not included in the recordings. Overall, managing consent is a very delicate and time-consuming task. While we did this manually for this conference by sending forms via e-mail, we would recommend devising some consent management system that reduces the amount of manual labor required in order to save time and to reduce the risk of making mistakes in processing forms.

2.1.3 Asynchronous contributions: Online presentations of research, poster presentations and abstracts

As stated above, most of the contributions to ICAME 41 were pre-recorded presentations. We had three asynchronous formats:

- i. poster presentations including a brief video presentation (3 to 5 min.)
- ii. video presentations for full-papers (5 to 20 min.), work-in-progress reports (5 to 10 min.), software demonstrations (5 to 20 min.) as well as the already mentioned pre-conference workshops
- iii. extended abstracts (up to 1200 words)

For all formats, the contributors were free to provide additional material such as slide decks, data, code, or links to repositories. For each contribution, we created a page on the conference platform which contained the video, the abstract, additional material as well as a commenting function for other participants to ask questions and comment on the contribution.

Video presentations

The majority of the academic content, more than 80 contributions, was made up of asynchronous, pre-recorded presentations and material by our contributors. Conference participants who had already been accepted for presentation and/or had already registered for the physical event were notified right after our decision to go online. They were informed about the new formats and had to decide whether they would still like to present their research as a video presentation

until, initially, three weeks prior to the beginning of the conference. The general registration was open until two days before the event since we realized that the fact that participants did no longer need to make any travel arrangements led to some registering much later than they would have done for the physical conference.

Accepted contributors who decided to prepare a video presentation were asked to provide us with a (creative) video presentation of their research as well as an extended abstract. The video had to be ready two days before the beginning of the conference. Pushing back the video presentation submission to two days before the conference started was very well received and led to more contributions overall. However, for us as the conference organizers this meant having to prepare and upload the submitted files very quickly.

Between May 20th and June 12th (the timeframe during which all presentations were accessible), each presentation was accessed 113 times on average ($\bar{x}=93$, $\sigma=102$). However, as the variance indicates, some presentations drew a lot more attention than others. Also, we observed that presentations that were publicly accessible drew significantly more viewers. Looking at the statistics, please be aware that the numbers are somewhat imprecise as they have been derived from our server logs only for privacy reasons (as compared to more sophisticated analytics platforms). The numbers indicate how many times the given URL was retrieved, and we haven't factored in whether these were truly unique users.

Generally, people seem to have had few problems recording video presentations. Nevertheless, some participants in the survey reported that recording video presentations was challenging for them less in terms of technology, but more in terms of getting used to this medium. Also, due to the swift change towards a digital conference, participants had very limited time to prepare their videos. We were also very happy to see that some contributors creatively used the affordances of the medium and, for example, encouraged the audience to pause the video and think about a question or issue. For future conferences, we are looking forward to even more creative ideas and novel approaches to presenting academic content.

Unfortunately, due to time constraints, we were not able to provide subtitles or captions for the video presentations. From an accessibility standpoint we would have loved to offer more. Out of the participants who took part in our survey, 87% reported that their experience with the pre-recorded presentations was either excellent (48%) or very good (39%), 13% had an either average (12%) or not so great (1%) experience.

Poster presentations

Poster presentations consisted of two parts: the poster itself as well as a short video introducing the poster. All poster presenters provided a "traditional" acad-

emic poster in PDF format. For future conferences we might want to encourage “posters” that make full use of the digital format, e.g. including animations and interactive elements. Between May 20th and June 12th, each poster presentation was accessed 148 times on average ($\bar{x}=115$, $\sigma=71$).

Extended abstracts

In addition to these (audio-)visual formats, presenters were invited to write longer, extended, abstracts of up to 1,200 words. These were used on the conference platform, making it possible to search for content more easily, and will allow for quick and Open Access publication of some of the key results of the presentations shortly after the conference.

2.2 Social program

ICAME conferences are traditionally very social conferences, with boat trips, conference dinners, city tours being key events. Moving into the digital space meant that we had to abandon most of the planned social program. However, since we strongly believe that conferences are about people and relationships, we tried to come up with social activities that could be facilitated digitally. Here are some of the online social activities we designed.

2.2.1 *Waiting rooms*

One of the most social moments of a conference is right before a presentation when everyone settles in. We wanted to emulate this by having waiting rooms for all live events which were opened at least 30 minutes before the event. During this time, people could use the *Zoom* meetings to socialize and they made active use of it.

2.2.2 *Break-out sessions and “welcome reception”*

On two occasions, we split participants into randomly assigned break-out sessions (individual meeting rooms with four to six people) for them to get to know each other. The idea behind this was to emulate meeting new people by essentially joining a table full of strangers. While many participants really enjoyed these sessions, some commented in the survey that this felt a bit awkward for them and that they would have liked to be informed about this beforehand. The message to conference organizers is therefore: also for the social activities, make sure that you inform your participants in detail what you are going to do, how and at what time.

2.2.3 *Virtual city tour and quiz*

Instead of the conference dinner, which traditionally is the most important social event at ICAME conferences, we offered a virtual city tour and a quiz about Heidelberg. After introducing the idea in the plenary, we split participants into smaller groups (in random break-out rooms). These groups then were provided with both a video of a virtual city walk (recorded with a GoPro and hosted on *YouTube*) as well as a digital city quiz which worked similar to a pub quiz and was facilitated using *Quiz Maker* (*Quiz Maker*, 2020). We then invited participants to watch the video together using *Watch2Gether* (*Watch2Gether*, 2020). After some time, everyone was taken back to the main room and we discussed the results of the quiz together. In our survey, many participants said that they enjoyed the digital social program very much. Still, many pointed out that these digital formats cannot replace meeting and getting to know others in person. We are convinced that – had we been given more time to prepare the event – there are many interesting digital social formats that could be used in the future to make digital conferences a much more social experience, including concerts or streaming music into social meetings. For example, #CADS2020 in Sussex featured a very well organized “Corpus Quiz” and the student conference StuTS 67 in Bayreuth featured both a digital city tour as well as a digital living room concert. In order to have accompanying music in the waiting rooms you have to take heed of licensing issues. In addition, we provided the tools and platforms for participants to get in touch with each other and to discuss not only the presentations but whatever topics they wanted to talk about.

3. **Communication, management, co-creational processes and other matters**

This section will outline the communication and management tools and processes we used and enhanced for our conference. Internal and external communication channels including the use of social media are crucial for the success of an online conference. This is what we used:

- i. *Slack*, featuring various communicative channels, as both an online social platform for the conference participants as well an online communicative channel for the team (see Appendix A for alternative solutions).

Approximately 88% of our participants joined the shared *Slack* workspace. Based on our survey, 66.2% had an excellent (28.6%) or very good (37.7%) experience, while 33.8% had an average (26%) or not so good (7.8%) experience. These results

are mixed, but *Slack* was used very actively. Over the course of the conference and in the following days (until June 14th 2020, when the workspace was closed) approximately 4600 messages were sent by participants. 63% of these messages were sent in private chats which clearly indicates that participants used the workspace as a means of communicating with each other directly. The workspace was only actively used during the conference and shortly after, despite the fact that it was kept open for almost three weeks after the conference ended. By May 26th, three days after the conference had ended, we did not register any new messages in the workspace – neither publicly nor privately.

One feature that was very helpful is the *Slackbot*. This is a bot that can be used to provide users with pre-programmed responses to certain keywords in the workspace. We used this feature to inform users about important links, dates, and also technical fixes for common issues. While the bot had posted too many messages before some additional finetuning based on participants' feedback, it solved many requests without intervention by the team.

- ii. The ICAME 41 *Twitter* Account (@icame41) as the main social media channel.

We launched our *Twitter* presence while presenting ICAME 41 during last year's ICAME conference. We exclusively focused on this platform since it still seems to be the most relevant channel for the field. Looking to the future, especially when it comes to marketing Open Access formats, we would definitely also consider a broader approach to social media. The engagement statistics show that *Twitter* was much more effective than both e-mail and *LinguistList*. However, since we did not do extensive user tracking, we do not have insights into conversion rates between these channels.

- iii. Various mailing lists allowing us to send (personalized) bulk e-mails to particular groups of participants (e.g. previous participants, current participants, contributors, board member).
- iv. Our website (see <https://icame41.as.uni-heidelberg.de>), which was visited by more than 12,000 people (more than 45,000 visits) until June 22nd, 2020.
- v. Our conference platform (see below) to discuss asynchronous presentations.
- vi. *Zoom* for the online live events as well as for the design thinking workshop. *Zoom* is very reliable and stable. However, it has to be considered that some countries limit access to particular platforms and services such as *Zoom*.
- vii. A *YouTube* channel to both stream and host the panel discussion.
- viii. *Mural* as a collaboration tool for the teams during the design thinking workshop.

The remainder of this section is divided into six subsections which address the following concerns: conference management software and the conference platform; file management; internal communication and project management; conference fee; publications and output; and, finally, budget.

3.1 Conference management software and conference platform

We used two conference management systems: *EasyChair* (EasyChair Ltd., 2020) and *ConfTool* (ConfTool, 2020). While we used the former to manage the call for papers, the abstracts, and the reviewing process, the latter was used for conference registration and payment. While both tools worked very well for these tasks, using multiple proprietary, cloud-based platforms led to the challenge of having two incompatible datasets containing information about participants, which also had implications for data protection that needed to be carefully taken care of. In order to solve this challenge, we used custom software syncing these two datasets regularly.

In addition to the conference website we hosted a semi-public conference platform on which we made all recordings and pre-recorded presentations available. We needed a system that would allow us to have individual pages, including the recordings as well as additional information and files, for each presentation that could be easily accessed. We also wanted participants to be able to comment on and discuss the presentations on the platform. Since we had both open- and closed-access material, the system needed to support user authentication. As we were not sure about the number of people accessing the videos, we hosted the actual videos on a separate, dynamically scalable system. We chose *TYPO3* (TYPO3 Association, 2020) as our content management system as well as *Open-Cast* (Schulte, 2020) (video hosting) for their features, openness and availability to us provided by the University of Cologne.

Overall, this setup worked very well. The three biggest challenges were to provide a good system for commenting and discussing (*TYPO3* unfortunately does not provide this out of the box), managing participants' accounts in a third system, and working on issues during the conference on the live system. To distribute individual information such as login information for the conference platform and voting codes for the Board election, we used personalized bulk e-mails. The certificates of participation were generated using a custom tool, uploaded to the conference platform and then distributed via individualized links in the same way.

For future digital conferences, digitally signed certificates or Open Badges⁴ could be an interesting viable alternative.

3.2 File management

Our internal file management was mainly done via *Seafile* (Seafile, 2020), more specifically *heiBOX*, Heidelberg University's instance. Overall, we generated about 56 GB of data (this will, of course, widely differ between events). The two biggest challenges we faced were linked to keeping track of the data as well as data protection and privacy issues. As our team was split over multiple locations, it was quite hard to keep the data synchronized and to follow protocol to avoid any security issues. In general, working with (high quality) videos requires significantly larger amounts of storage space as well as computational resources when compared to the requirements of a more traditional conference.

3.3 Internal communication and project management

The team had a shared *Trello* (Atlassian, 2020) kanban board for immediate task management as well as a *Miro* board for collaboration sessions and notes. Internal communication was at first facilitated over various channels. One day prior to the beginning of the conference, we set the rule of exclusively using *Slack* for internal communication, which guaranteed reducing the need to keep track of multiple channels. Looking back, especially during the initial phase of shifting everything online, we made the mistake of relying on asynchronous Word and Excel files and did not manage to keep our files in sync during the frantic reorganization of the conference. A similar issue emerged when we shared files on *Slack* instead of taking the time to sync them using *Seafile*. The lesson we learned was that investing time into sticking to protocol pays off overall.

3.4 Conference fee

The initial conference fee was set to be € 375. Cancelling catering arrangements, the physical social program, and many additional costs, resulted in a reduced fee of € 75. Participants of the design thinking workshop had to pay € 150 to cover the additional costs for external consultancy. Overall, fees for a digital conference seem to be significantly lower than for a physical one. Therefore, it is of

4. Open Badges, see <https://openbadges.org>, are digital badges that can contain additional information and be easily verified by third parties.

great importance to clearly communicate additional benefits of paid participation, especially if there are free Open Access components to the conference.

3.5 Publications and output

It is important to align publication more to the online format while, at the same time, adhering to the classic publication tradition. Therefore, we see the videos of posters and papers produced and recorded by our participants and the plenary speakers – some of which are publicly available – as new formats of digital publication. Also, we will shortly provide a *Book of Extended Abstracts* as a publication. We will also go for the classic peer-reviewed publication of conference proceedings with the series *Discourse Patterns* (series editors Beatrix Busse and Ingo H. Warnke, published at De Gruyter Mouton).

3.6 Budget

From a budgeting perspective, online conferences are significantly different from physical formats. While in our case, especially due to the already existing technological infrastructure at the University of Cologne, the budget was lower for the online conference, there may be significant costs involved especially regarding infrastructure as well as technical personnel. Since this cannot be reasonably generalized, please contact us at beatrix.busse@uni-koeln.de if you have additional questions.

However, our budget was also affected by cancellations which were communicated to us after we had announced the new conference format. About 35% of accepted contributors altogether decided to withdraw their contributions given the new format. Hence, we had 152 instead of the anticipated 200 participants. Reasons given were the online format delegates did not want to participate in, personal challenges due to the pandemic and job-related pressures related to online teaching. Three of five originally planned Pre-Conference workshops were also cancelled. One of the remaining two workshops (see <https://icame41.as.uni-heidelberg.de/workshops>) was held as a synchronous event using *Zoom*. The other was held asynchronously very similarly to all other pre-recorded formats.

Following various conversations about our plans to go digital, the Deutsche Forschungsgemeinschaft (DFG), which had granted us a substantial amount of third-party funding prior to the outbreak of the pandemic, embraced the digital transformation during the pandemic with flexibility and openness and agreed to fund the new formats of online academic exchange.

4. The agile team: An example of co-creation

We were a team of six enthusiastic, dedicated academics, used to co-creatively working together and eager to take up the challenge of organizing an online conference. Based on our experience, we believe that the following (additional) skills need to be present to make an online conference a success:

- i. experience with agile project management and with accounting (especially with regard to digital products and licenses)
- ii. legal expertise (data protection) combined with knowledge about sensible data management
- iii. experience with digital and remote collaboration and communication as well as familiarity with various tools and platforms
- iv. experience with managing scalable technical infrastructure. Since digital conferences fundamentally rely on the infrastructure being there, there should always be at least two people who are able to react to issues with the system
- v. experience with working with audiovisual material, video editing, and streaming

Since a fast workflow is important regarding the recording of live events and video material in general, it is also advisable to have trained experts (e.g. trained research assistants) working on preparing and uploading videos. It is vital to always have skilled team members, including people who can quickly fix a wide array of technical issues remotely, on standby.

While reacting to participants' issues is important for all conferences, it is particularly important for remote ones. Since during a physical conference, participants can follow others and quickly assess what is going on at any given time, during remote events, especially if there are technical issues, there is a much smaller chance of participants being able to solve their problem or question on their own.

Based on our survey, we were able to address most issues relatively swiftly: 98.67% of participants found our response time to questions either excellent (85.33%) or very good (13.33%). The results for our response time towards technical issues are approximately the same. We are still aware of the fact that each participant who did not receive help swiftly was not able to participate at all for the time given.

We were substantially supported by the University's conference management team. They were in charge of managing the registration as well as the payment of invoices. While different institutions will have different support systems, it seems highly advisable to outsource as much of the bureaucracy as possible to institu-

tions that have both the infrastructure and experience to handle these issues very efficiently.

5. Conclusions

There are both advantages and disadvantages to online as well as to physical conferences. It is helpful to see the individual features on a continuum. In the future, conferences certainly do not need to be fully online nor fully physical and various hybrid formats seem to be one potential way forward.⁵ The following points present a number of lessons, conclusions, and recommendations based on our experience of organizing ICAME 41 online:

- i. A mixture of asynchronous and synchronous events allows for arranging individual schedules and for wider participation as no traveling is needed. It has the potential to foster greater accessibility (e.g. subtitling), eco-friendliness and sustainability, equity, diversity and inclusion. For example, parents with small children were able to join the entire conference.
- ii. An online conference can realize Open Access more widely, which was, in our case, very well received by the community and other areas of linguistics and inter-disciplines. This helps to avoid “inbreeding” and encouraged multi-perspectivity.
- iii. An online conference can be achieved on a lower budget and, as in our case, it might also be possible to reduce the fees for participants. This allows for more scholars, especially junior researchers and non-institutional audiences, to join the conference.
- iv. Funding institutions need to quickly align their regulations (regarding software, tools, platforms) to the new online and digital formats of conferencing and discussing as well as exchanging research.
- v. New modes of presenting organisational conference information and research make for a multimodal and more interactive experience.
- vi. Before and during the event, the organizing team is not only able but also required to work more on content and ideas than on management compared to physical conferences. However, while certain common management tasks become less important, new duties and tasks arise, given the format.

5. This view is also shared by the organizers of the *Corpora and Discourse International Conference 2020* (#cads2020) who have also published a short resume of their experience organizing a digital conference: <https://corporadiscourse.com/reflections-after-the-conference>

- vii. During and after the event, the organizing team is also able to attend and participate in the academic part of the conference, which – as we know from experience – is usually not the case for physical conferences.
- viii. Technical experts are needed, although both community-driven and commercial providers are now working on all-inclusive facilities to arrange for online conferences.
- ix. Online and digital formats allow for new and lasting modes for commenting on and discussing research (via individual topic- or plenary-related *Slack* channels and via the comment function for each pre-recorded presentation). Especially fascinating is when these functions are used by multiple participants simultaneously to discuss aspects of a plenary talk with the plenary speaker. This simultaneity triggers participation of a new dimension, as if participants disclose their thinking processes and write them down. All of this not only makes communication more transparent, but also allows more people to learn from these discussions.
- x. More and more researchers of all age groups develop advanced media competencies. Digital conferences are an opportunity to hone and deploy these competencies. This is important and we have to use these skills to increase the quality of how we present and disseminate research and knowledge.
- xi. We can all learn from one another and establish best practices; hence, our report and our attempt to open up ICAME and to embrace Open Access formats.
- xii. The conference becomes more sustainable both in terms of the environment as well as in terms of the material and presentations that are available to more people and for longer.

We would like to make a few more suggestions: Given that the infrastructure requirements of smaller digital conferences, such as this, are somewhat similar to what would be needed for a larger conference, there are economies of scale at work. Thus, providing a conference platform for 1,000 participants is only marginally more expensive than providing the same platform for 150 participants. Therefore, digital conferences, which allow for significantly more participants, could drastically lower the cost per participant and allow for more inclusive events that are not limited to those, for example, who are fortunate enough to work at well-funded institutions.

We think that all conferences should now contain some online components that are streamed or recorded at least in parts. If needed, we should get professional external expertise whenever necessary, as we did with the design thinking workshop. If you decide to do things on your own, carefully consider the cost – benefit relation of that decision.

In addition, we would like to stress that quality-controlled video presentations should be considered as a new form of publication which contributes to our research and transfer portfolios. This will give more ownership and agency to us and allow us to embrace these new formats wholeheartedly. In order to realize this, we would like to suggest a managed channel, for example hosted on *YouTube*, for publishing linguistic videos. This channel could follow the model established by ABRALIN (see <https://www.youtube.com/c/Abralin>) but with a stronger focus on conceptualizing the videos as publications. We are currently looking into that option and would be happy to discuss ideas.

One of the most important lessons we have learned is that organizing an online conference is transformation, not translation. We did a good job, but there is always potential for more – possibly a “truly” digital conference without the compromise of legacy event types and the perceived need to create an experience as similar as possible to what we already know. Out of the 80 survey participants, ten mentioned in the general comment section that they see the environmental benefits of digital conferences. So, by facilitating more digital events, we can work towards saving our planet by reducing the carbon footprint of academic events and be in line with the UN SDGs⁶ in very innovative and creative ways. Also, it is time to take care of our own individual well-being, health and work-life balance. As a case in point, 15 survey respondents specifically pointed out that they enjoyed not having to travel. In addition, ten participants specifically made it a point that the digital format and especially the associated lower cost made the conference much more accessible to them.

Furthermore, digital (online) conferences will allow us to explore many new and exciting ways of sharing our expertise and research. This includes the fact that conferences can now be organized by a team of colleagues who live at various destinations across the globe but who still team up for an exciting online event without having to meet physically.

We want to finish this report by focussing on concrete suggestions made by our conference attendees, who we asked in what ways they thought digital conferences could be improved in the future. Synthesizing the answers to this question led to the following four recommendations:

- i. More live events and especially more panel discussions;
- ii. more scheduled (social) events that reduce the “downtime” between live events;

6. The *Sustainable Development* Goals, devised by the United Nations, are a set of 17 global goals, including quality education, gender equality, and climate action, intended to achieve a better and sustainable future (see <https://www.un.org/sustainabledevelopment/sustainable-development-goals>).

- iii. increased focus on comments and questions for asynchronous presentations (e.g. slots for watching and discussing presentations together, reminding and encouraging participants to leave comments);
- iv. a more sophisticated solution for comments and questions that notifies speakers about new messages and encourages discussions about the asynchronous presentation.

Furthermore, we would like to team up to create and design the platforms we need to realize future conferences. For universities and other institutions of higher education, this would include facilitating the infrastructure necessary to store videos, as well as to provide sophisticated tools needed for synchronous and asynchronous communication and collaborative interaction.

It is probably still a truism, and will remain one, that conferences without physical encounters are like Shakespeare without theater and performance. However, we have to rethink our norms of how to realize conferences and no longer consider physical conferences to be the standard of how we meet, exchange our ideas, and act as critical friends. This is definitely a turning point and we have to use the current momentum to our advantage – redirecting our gaze. With this report we aim to show the need for linguists to follow radically new paths of thinking about conferences and their design, to step out of our comfort zones and, ultimately, to take on global responsibility for finding solutions to the grand societal challenges we are facing. The magnitude, momentum and somewhat prophetic character of the conference theme “Language and Linguistics in a Complex World: Data, Interdisciplinarity, Transfer, and the Next Generation”, chosen more than two years (!) ago, are as spookily and liberatingly enlightening and still resonating in our bodies and minds, as is our realization that the future is changing its direction severely. It needs empathy and co-creation – that is a joint view to what we and others need – to both realize a humane and SDG-led future. Let’s be agents and not objects of change, take on leadership, realize co-creation and work with empathy. We need to sustainably use our skills, expertise, and resources to realize our well-being of a different kind. Making this conference happen has made us very hopeful that we can also use what we do best – doing research in linguistics and sharing and discussing ideas in new formats – as a basis for contributing to creating a liveable future.

Acknowledgements

This paper has been created in collaboration with Franziska Wagner (Heidelberg University), Nina Dumrukic, Ruth Möhlig-Falke, and Kellie Gonçalves (all University of Cologne). We would like to thank the DFG wholeheartedly because their decision to support our online con-

ference enabled us to come up with the exciting interactive online formats. Finally, we want to acknowledge that our conference turned into a collaborative online event between Heidelberg University and the University of Cologne, to which Beatrix Busse moved in October 2019 and where the pre-recorded video presentations and the conference platform, providing participants access to all conference materials, were hosted.

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Appendices

The appendices are available here: <https://doi.org/10.1075/ijcl.00028.bus.additional>

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