Uni@Home

UNI@HOME SPECIAL TEACHING AWARDS – PRESENTING THE AWARD WINNERS

Just a few days until the beginning of the semester, the lecture planning is in place, and then: the uni stays closed. In spring 2020, the coronavirus pandemic demanded special measures to maintain the teaching operations. The University of Wuppertal's answer was "Uni@Home". For the teaching staff, this meant adapting to a never-before-encountered situation in the shortest of times, developing digital concepts and conveying teaching content in new formats.

Everything digital, in no time – this required a lot of dedication and merits special recognition. As a reward, the University of Wuppertal issued "Uni@Home special teaching awards" to teachers who had evidently succeeded to a particular degree in offering outstanding lectures. Departments, individual students and deans were allowed to nominate, with the decisions made by intra-faculty committees made at least half by students. The following pages are devoted to the award winners and their concepts.
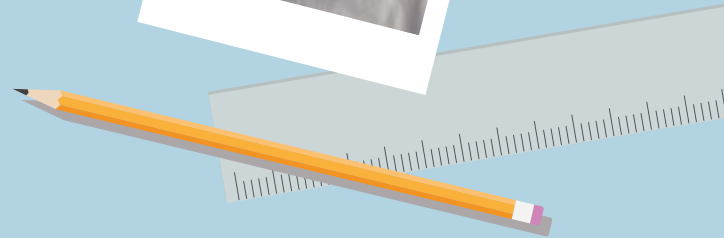
PROF. DR.-ING. JOHANNES BACKHAUS

Discipline area: Print Processing and Packaging Technology
in the School of Electrical, Information and Media Engineering

Award received for:
Lecture: 'Packaging Technology'

'The top priority was that there should be no cutbacks for the students, whether in specialist expertise or in terms of soft skills. Here, that involves giving presentations without reading from a script and, especially, summarizing large amounts of contents in brief – the latter, in particular, is of crucial importance in professional life,' Johannes Backhaus explains. In contrast to face-to-face teaching, the lecture and presentations on particular advanced and additional topics were produced as screencasts and made available on Moodle three days before the weekly Zoom conference. The conference was the platform for personal contact between all participants. Here, on the one hand, students gave a compact summary of the material covered in the previous week; on the other hand, there was room for questions, explanations, engaging with the topics, exchanging experiences, and feedback. The results of the screencast presentations and the summaries fed into the 'portfolio' format of assessment.

There were to be no special purchase costs for the students. All had a computer/smartphone, a headset and a camera. All the software was made available by ZIM or is freeware. 'It was easy to find suitable software and appropriate instructions on the ZIM portal. In addition, personal help with program crashes or complex data management issues was available immediately. ZIM and the BU:NDLE network did a great job here,' says the professor. However, some students had constant network connection problems. In this respect, there was much room for improvement – all over the world.

Learning comfortably in one's own time

In retrospect, according to Backhaus, Uni@Home turned out to be less difficult than initially feared, if time-consuming. This primarily concerned the recording and particularly the editing of the screencasts. 'Digital teaching and learning is easier than it first seemed. But there are initial inhibitions to be overcome, and some things have to be thought of differently from face-to-face teaching,' the professor says. The learning and teaching format chosen – screencasts with an accompanying video conference – was very suitable for materials to be covered critically and in depth, and with a manageable number of participants – even better than a face-to-face lecture. For large groups and learning situations predominantly involving basic and factual knowledge, other digital learning formats were better suited.

The students felt comfortable learning from screencasts. To improve understanding, individual passages could be repeated as often as needed. Furthermore, screencasts allow everyone to learn in his or her own time. 'In the video conference, personal contact between me and what was a manageable number of students was possible at all times. It's my impression that students were less inhibited to speak in the video conference than in the public eye in the lecture theatre,' Johannes Backhaus observes.

uni-w.de/u4pj5

PROF. DR. MARIA BEHRENS

Chair of Political Science, particularly International Relations and Comparative Politics, in the School of Human and Social Sciences

Award received for:
Seminar: 'Transformation of state and society'

Prof. Dr. Maria Behrens's top priority in preparing for the Uni@Home semester was a timely communication of the new 'rules of the game'. She informed her students before the seminar got started what they could expect. Moreover, her digital plan was to put students in a position where they could actively acquire learning content. It was not always possible to implement everything in the way initially planned: 'I did my best, to improve the seminars together with the students and make adjustments over the course of the semester. The students were always willing to find a creative solution when there were problems,' the lecturer comments on the development process.

Digital applications to enrich the ways in which learning contents are conveyed and disseminated

To make for a varied presentation of the seminars, she ended up using both the Moodle and Zoom platforms: 'Moodle has the advantage that you can upload texts, editing tools, glossaries, exercises and much more to make them available to the students. This enables you to choose a suitable teaching method depending on the learning content and learning objective.' The political researcher chose Zoom for synchronous communication with her students.

She made sure to split her participants into small groups so that they could work on exercises together and have discussions. In one smaller teaching format, for instance, she had the students discuss a text via video conference. At the same time, the group were also working on a glossary of terms on Moodle. In one of her larger seminars on comparative politics, in which around 50 students took part, the participants first had to pass a test in order to join a working group. 'The test included a question about the text for the session which, although easy to answer, did require the students to have read the text beforehand. By doing that I simply wanted to ensure that there weren't too many free riders floating about in the working groups and just muddling through the digital format,' the award winner explains.

For Prof. Behrens, the exchange with colleagues in political science and the BU:NDLE network were valuable sources of information in getting through the semester: 'In March and early April in particular, the greatest help was that most of the teaching staff in political science, myself included, unlocked their Moodle courses for each other before the beginning of the semester. Each of us tried our hands at using different tools.' In this way, the digital applications came to enrich the ways in which learning content was conveyed and disseminated.

'My experience has shown the importance of first accepting the digital challenge more or less unprofessionally, knowing that you will make mistakes along the way and to learn from them together with the students.'

uni-w.de/03ijj

PROF. DR. RALF BENÖLKEN

Discipline area: Mathematics Education with a particular focus on issues relevant to special needs education in the School of Mathematics and Natural Sciences

Award received for:
Lecture: 'Diagnosis and support in inclusive mathematics teaching'

'A good lecture for trainee teachers depends – on the one hand – on profound insights both into research findings and into possibilities for practical application in schools. But on the other hand, it also requires a lively discussion between all participants, whether deliberately initiated or spontaneous,' Ralf Benölken explains. So he and his team asked themselves: How could the resulting 'liveliness' of interaction between all participants be transferred to a distance-learning format? And how could this be done in a way that would make it something more than a 'inferior copy' of face-to-face teaching?

One crucial decision taken was to make use of an inherent advantage of distance-learning or e-learning formats and design the lectures in a temporally asynchronous architecture. At the same time, the contents of the lectures were made accessible on different levels so as to allow students to use their own learning strategies. So each week, Benölken made a 60-minute lecture video and prepared a (traditional) lecture script.

In addition, a digital exercise architecture was developed which, while not making it possible to acquire the contents without any knowledge of the lecture videos or scripts, at least in part fulfilled that function.

> Informing, organizing and keeping in touch via video diary

In this way, the students were free to decide whether to study at the intended time of the lecture or in a time-window which they could plan flexibly for themselves. Various forums on the Moodle platform, among other things, took the place of interacting in the lecture theatre. These were complemented by additional materials such as further reading, interim evaluations, some additional, temporally synchronous Q&A sessions using the Zoom video conferencing software, and a video diary by Ralf Benölken. 'Sometimes I used this diary to provide important organizational information in a lasting way, such as on the organization of exams, at other times it was simply another element I used to compensate to some extent for the lack of interaction in the lecture theatre, the lack of personal contact.'

According to Benölken, it was an enormous help that the University of Wuppertal managed to establish a dependable digital architecture for organizing the distance-learning semester in what felt like record time. 'Of course, even beforehand, there were considerable resources available here, but the speed of the extensions and how well they fit were extremely beneficial,' says the award winner.

A central message for Benölken himself was that two things ought to be ensured beyond the mere architecture for transmitting learning content: first, transparency in all matters. And secondly, a way of not losing the personal touch. 'At the same time, the digital semester seems to me to have led to an extension of teaching methods for further personalizing learning strategies from the point of view of teaching methods in higher education.'
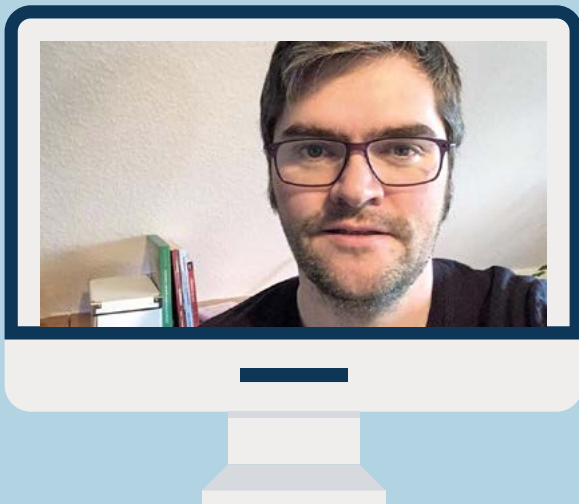
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PROF. DR. CHRISTIAN BREDEMEIER

Chair of Applied Economics at the Schumpeter School of Business and Economics

Award received for:
Module: 'The economy, trade and employment'

I n his teaching, Prof. Dr. Christian Bredemeier attaches great importance to direct interaction with students: 'Such as on questions and discussions during lectures and seminars, but also on being available and approachable for the students.' Now it was a matter of developing a plan for digital-only teaching that preserved as much as possible of the interactions that had taken place offline in our lives before the coronavirus.

The advanced module 'The economy, trade and employment' consists of a weekly four-hour lecture and a two-hour exercise. Specifically for this module, the challenge, on the one hand, was to teach formal mathematical content, for which blackboards or whiteboards are used in offline teaching, digitally in an way that makes sense from an educational perspective. On the other hand, in an application-oriented module such as this one, in which there is much need and space for discussion, it was particularly important to create a climate encouraging students to actively participate.

For the module's Uni@Home plan, Bredemeier used a mix of various digital teaching formats and different media. 'The lectures were provided

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as live video conferences on Zoom, supplemented by other teaching formats. During lectures, I used a virtual whiteboard to present step-by-step developments or to note keywords,' Bredemeier explains. At specific points in the lectures, he made available additional screencasts, for example to present graphical analyses involving the movement or rotation of curves. 'For questions arising from the students studying the material after the lecture, I set up a Moodle forum which I regularly checked and posted on or replied,' says the economist. The forum was also an important tool for keeping in touch.

Making the most of the semester in an unprecedented situation

The exercises also took place in a multimedia format. For each exercise sheet, the award winner and his team provided comprehensive written solutions, screencasts, digital Q&A sessions in the form of Moodle forums and, finally, live Zoom sessions. In the screencasts, the exercises were solved step by step, the solution being explained along the way. 'The media platform MyMediasite provided by ZIM made it easy to record screencasts and embed them in Moodle, and enabled me as a lecturer to focus primarily on the content and educational design of the screencasts,' Bredemeier sums up.

'My final impression of the Uni@Home semester is surprisingly positive. Not least thanks the students' willingness to co-operate and their understanding of the unprecedented situation we were able, in my view, to make the most of the semester.' Still, Bredemeier yearns to return to the real lecture theatre.

PROF. DR. SUSANNE BUCH

Discipline: Educational Diagnostics at the Institute for Educational Research in the School of Education

Award received for:
Seminar: 'Basics of educational diagnostics'

The lecture 'Basics of educational diagnostics' is a mandatory class for the Master of Education degree, in which an ungraded pass must be obtained. It is a very large lecture with about 300 to 350 students per semester, the way in which the students' are tested must be meaningful but also manageable in terms of marking, and the student body is heterogeneous – with regard to both prior knowledge and interest in different issues in diagnostics.

First of all, Prof. Dr. Susanne Buch decided on an asynchronous teaching format. 'I therefore had to solve the problem of how to at least partially replace the little – but important, in my view – interactive elements in the lectures, such as triggers for short discussions or questions designed to stimulate thought and exchange,' the education expert sums up. It was also important to her to be present and available for communication despite the asynchronous format. Besides Moodle, the professor communicated with her students mostly on Rocket.Chat. For example, during the semester she had fixed times during the week when she was online in the chat softw

Structured and lasting learning using a learning plan and quiz

The students received learning material via Moodle every week. For each topic, there was a 'learning plan' in the form of a suggested order in which the material should be worked through. The basic material consisted of videos produced by Prof. Buch herself on a tablet using a whiteboard app and embedded in Moodle via HP5 to implement interactive elements. In addition, she provided teaching material to support the students in their learning journey and to explore the topics further. Having worked through the basic material, students were asked to complete a short quiz which the lecturer had also set up on Moodle using the 'Test' function. A minimum score in each quiz was relevant for getting the passing grade, whereby each quiz could be repeated.

The package for each topic (basic material and quiz) had to be completed in a given time-frame of usually three weeks. In this way, Buch wanted to prevent students from 'massing' their learning into a short period at the end of the semester and thereby not retaining anything

they had learned. 'I put a short feedback questionnaire on Moodle for each session, which found lively use, and which included both open feedback and standardized evaluations of difficulty and effort required.' Finally, for passing the lecture, two additional application tasks had to be completed, one as a group, the other offering a choice of working in a group or individually.

Preparing the lectures took a lot of time, but Buch could rely on the BU:NDLE team as well as her subject area team and the exchange with colleagues. Buch does not want to do without face-to-face teaching, but she notes 'that I had not been forced to take such a close look at educational problems in my own teaching for a long time. While it took a lot of effort, it was also fun.'

uni-w.de/r9v11

Uni@Home Special Teaching Awards

UTE DERKS

Institute for Sports Science, Integrative Theory & Practice of Sport in the School of Human and Social Sciences

Award received for:
Lecture: 'Swimming methodology'

Practising sports is inconceivable without face-to-face teaching – Ute Derks and her colleagues, including outside their own university, were agreed on that. But with COVID-19 treatment units being set up in the university sports hall in the spring of 2020, the sports scientists' central location for teaching methodology and sports education became unavailable. 'Teaching the methodology and education of athletic movements is unthinkable without practical activity, reflected discussion of subject-specific learning content and the experience of expanding one's own athletic skills,' says the lecturer. What was needed was a hygiene plan, so as to be able to offer at least a part of face-to-face teaching.

With the measures for preventing the spread of the coronavirus approved by the university, the sports scientists began their pared-down teaching programme, mostly outdoors. But for some courses, different solutions were needed: 'I had to co-ordinate new hours of use and also exercise hours at the intensive training centre for swimming. Similar arrangements with external sports venues also had to be made by my colleagues teaching sports practice. The university sports hall could not be included in any deliberations,' Derks reports.

> Digital tools can be used as a support in sports practice

Finally, she began her swimming classes with a split group: one half started earlier and was relieved by the second group without the two groups meeting each other. At the sports venue itself, important stages of reflection and exchange had to be skipped, so that Derks set up other channels of communication: 'Moodle, portfolios and additional Zoom meetings were a great help to relate practice to theory and to classify contents methodologically and didactically that could not be taught face-to-face because of social distancing,' the teaching award winner says. She has come to appreciate these tools and wants to continue using them in future. But in sports practice, they can only be used as a support. The lecturer showed flexibility right up to the end, for even the examination was at risk of being cancelled following a technical fault at the intensive training centre. Once again, she had to change plans, make numerous phone calls and find replacement pools.

'Co-ordinating sports venues and being dependent on various bodies outside the university used up a lot of time and resources and required flexibility from all involved,' Derks sums up. In this context, all her colleagues rose up to the task and contributed to the lecture finishing a success. With regard to modern teaching, the semester has shown how important access to the university network from sports venues would be in future, so that digital technology can be used in teaching sports practice.
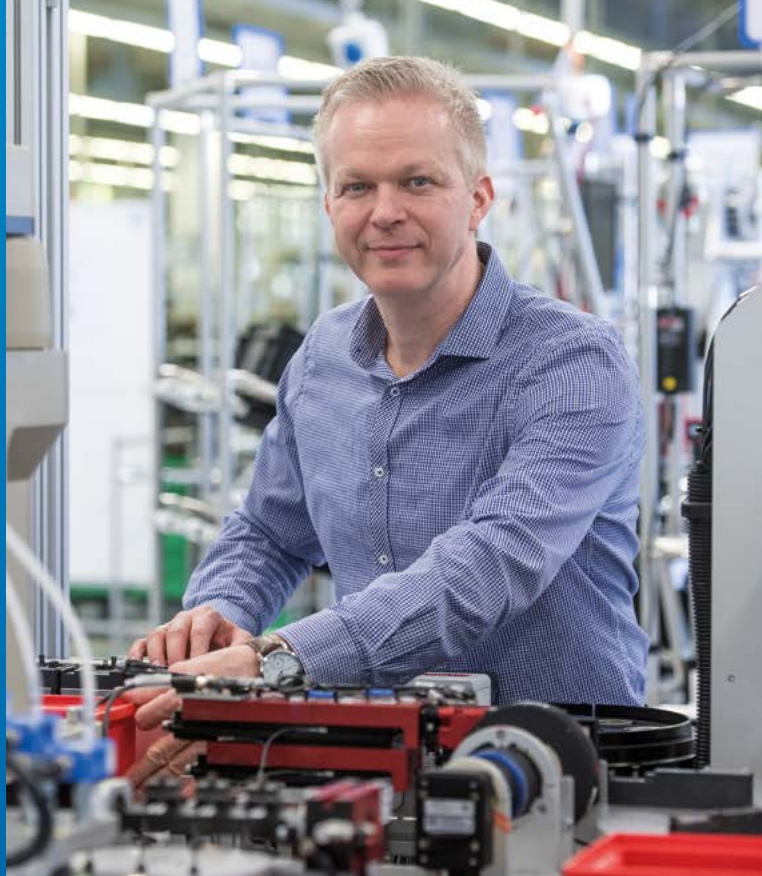
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PROF. DR.-ING. FRANK FIEDRICH

Discipline: Civil Protection, Disaster Relief and Building Security in the School of Mechanical Engineering and Safety Engineering
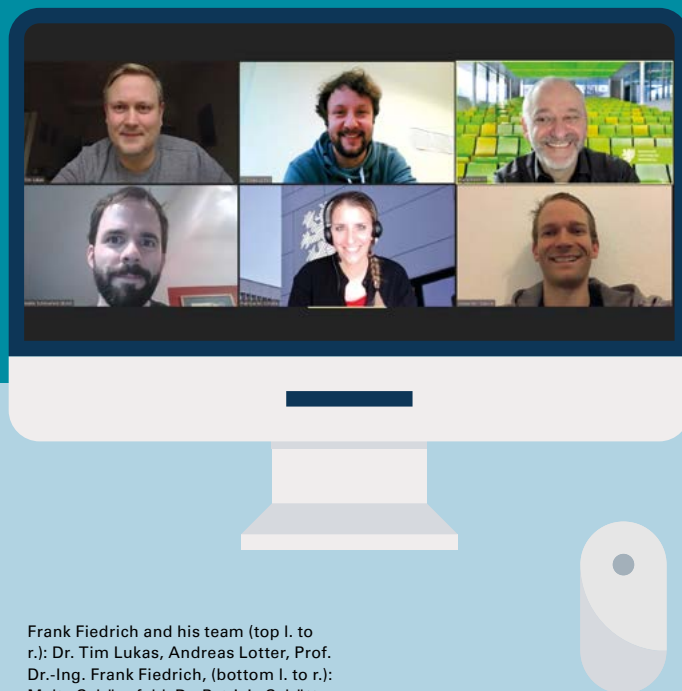
Award received for:
Lecture: 'Civil protection'

Frank Fiedrich and his team (top l. to r.): Dr. Tim Lukas, Andreas Lotter, Prof. Dr.-Ing. Frank Fiedrich, (bottom l. to r.): Malte Schönefeld, Dr. Patricia Schütte, Alexander Gabriel.

Teaching in the discipline of civil protection, disaster relief and building security aims at a lasting transfer of knowledge of the basics, theories and methods in the subject area of civil protection. Lectures in this field are marked by stimulating reflection and discussion using interdisciplinary approaches including examples from practice and current research. Interaction with the students is always key.

In this department, the decision to implement Uni@Home led to a rapid switch from traditional face-to-face teaching to an alternative digital format. This presented several challenges: among other things, the teaching material had to be reduced in short order so as to better adapt it to online formats. 'The greatest challenge was the didactic context, as the teaching staff had little experience in purely online teaching. In particular, it was difficult to get a measure, in advance of their implementation, of how interactive approaches in the conditions of the virtual environment and distance-teaching would impact students,' Prof. Dr.-Ing. Frank Fiedrich explains.

The team decided to shorten sessions from 90 to 60 minutes and to split them into short video units. To compensate for the lack of interactive elements, it set up a dedicated discussion forum for each session. In addition, several live sessions were held during the semester and shortly before the exam, allowing students to discuss difficult topics directly with the lecturers and to ask questions. There were also feedback tools on Moodle, enabling students to express their critique to the sessions anonymously, address critical issues and, again, to ask questions.

What works in a virtual environment

'Without the infrastructure and technical support on the part of ZIM, such a quick switch to online-only teaching formats would hardly have been possible,' Fiedrich says. The procurement of licences, the possibility to record videos and easy embedding on the known Moodle platform allowed an uncomplicated and reliable technological integration of the adapted teaching plans by lecturers.

'Switching to purely online-based teaching was a good opportunity for the team to try out already functioning concepts in a digital environment,' the award winner sums up. On the basis of interim and final evaluations as well as personal experience, he and his team have gained much knowledge. Above all: a healthy mix of interactive and purely knowledge-transfer-based elements works both in face-to-face and in online teaching. Moreover, online teaching provides students with great flexibility. 'One consequence of the situation is an increased demand for more digital elements supplementing face-to-face teaching,' says Fiedrich.

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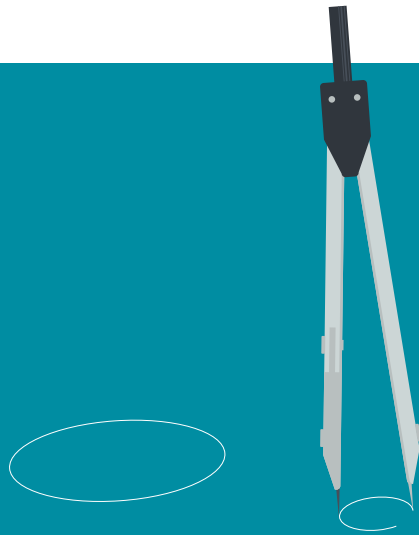
PROF. DR. CHRISTOPH GRAFE

Discipline: History and Theory of Architecture in the School of Architecture and Civil Engineering

Award received for:
Lecture series: 'TACK Talks'

At the beginning of the pandemic, the European network of his chair was very helpful to Prof. Dr. Christoph Grafe. Through research networks and collaborations with various universities, the professor of architecture was able to exchange views with European colleagues and – as some of them were already active in joint teaching – try out different online teaching formats.

These experiments were a prelude to a very active summer semester. 'On no account did we want to lose touch with our students, whom we would not be seeing during the extended period without lectures,' Grafe explains. This gave rise to the idea for a series of videos: suggestions for using the time to read books on architecture presented by Grafe's team as well as a number of architects and researchers they were friends with.

International online lectures

This small initiative gave rise to several others. A seminar by the department that has been conducted in collaboration with colleagues at the University of Hasselt (Belgium) for some years now could be completely redesigned jointly via Zoom. The online environment also provided an opportunity to involve the researchers in the research network in teaching on the master's degree course. In collaboration with colleagues at ETH Zurich, Grafe's team developed the lecture series 'TACK Talks' in which architects from ten European countries took part. 'It's like that, without the pandemic, this initiative too would not have been possible in such a short time. But now it was not just researchers and practising architects meeting on Zoom, but students from various European universities were also able to participate in these lectures,' Christoph Grafe reports.
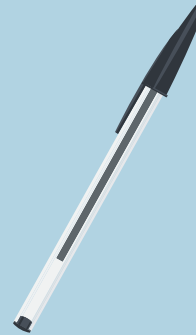
Adjustments during the semester

Towards the end of May, he noticed that participation in online lecture, which had been very active at first, was levelling off. The department responded to this – within the scope of official coronavirus measures – by holding part of the lecture in hybrid form on and near the Haspel campus. 'It may be that it is precisely that situation and the spontaneous, informal adjustments that most especially stuck in mind: a lecture as we imagine it – as a conversation between teachers and learners, or between learners among themselves. After the long period during which we had not or hardly seen each other, that meeting and that conversation, despite us keeping our distance, was an important experience,' Grafe says.

His summary of the past summer semester: 'Teaching has become very complex and also more time-consuming. A two-hour lecture can easily go on for three-and-a-half hours, because the informal exchange via Zoom also takes time. But the opportunities of international and also local networking are enormous, and we should continue to develop them in the (hoped-for) post-coronavirus times.'

uni-w.de/s27a7

PROF. DR. MICHAEL GROSCHE

Discipline: Rehabilitation Research with a funding priority on learning at the Institute for Educational Research in the School of Education

Award received for:
Lecture: 'Evidence-based approaches to support in heterogeneous learning groups in the area of learning development and emotional-social development'

The lecture with the short title 'Evidence-based approaches to support' forms part of the fourth semester of the bachelor's course in support in special needs education. In this lecture, Prof. Dr. Michael Grosche first aims to demonstrate to students the relevance of the notion of evidence-based practice, then to focus on the importance of evidence-based guidelines, meta-analyses and systematic reviews. The process of assessing the quality of primary empirical studies by such secondary analyses is discussed in detail. The core of the lecture is then the assessment criteria for primary studies, specifically research design, the internal validity of studies, inferential statistical analysis of experiments, and the independent calculation of effect sizes.

Uni@Home teaching provided many new opportunities

'Even though statistics is only one part of the lecture, students among themselves call my lecture "the statistics lecture", and it is not exactly one of the favourite lectures of teacher training students. Uni@Home did not really pose any fundamentally new challenges for this lecture. Rather, Uni@Home teaching provided many new opportunities,' says Grosche.

He decided to cut up the lecture topics into many small, asynchronous, self-managed learning units which students were able to work through at their own speed. Each topic was usually divided into three units and had the same structure: explanation of the learning objec-

tives, screencast on a given learning objective, interspersed with questions and prompts, self-managed exercises, anonymous feedback and finally a mandatory test of the learning objective. In addition, for the final topic he recorded a podcast together with a colleague from the University of Halle. 'By means of the exercises, students were able to test independently whether they had met the learning objectives. Anonymous feedback was likewise very effective for learning, leading to more frequent discussions with a larger number of students overall in this asynchronous module than in face-to-face lectures,' Michael Grosche sums up.

E-learning lectures – a format for the future

Preparing the various exercises and tests required a lot of effort and 'clicking work' on Moodle. 'Hence, it would have been impossible to implement these lectures by myself,' says the award winner, expressing his deepest thanks to all those involved in the lectures. Though he must admit that 'my own naivety regarding e-learning contributed to the success of the lectures', the intensive work gave Grosche valuable insights: 'I am absolutely sure that e-learning lectures are far more suitable for teaching the important topic of evidence-based practice than my traditional face-to-face lectures.' It is a format, then, that he will continue to use.

uni-w.de/lvyiz

DR. SARAH HENN

Special Needs Education working group with a focus on social-policy principles in the School of Human and Social Sciences

Award received for:
Seminar: 'Critical theory of everyday life (Kosík) as a basis of lifeworld orientation'

The first challenge for Dr. Sarah Henn was that the seminar 'Critical theory of everyday life (Kosík) as a basis of lifeworld orientation' had originally been planned as a reading seminar involving a lot of textual analysis and discussion. 'Given the new circumstances, I tried to lower the threshold somewhat for the theoretical foundations by limiting myself to not reading the authors (Schütz, Kosík, Mollenhauer, Beck, etc.) in the original, but to draw on secondary literature in the form of textbooks in educational studies and sociology,' the educational researcher explains. For teaching, she mainly made use of videos she had recorded herself. She also used those recordings to give her participants feedback, week by week, on previous exercises. She deliberately eschewed long Zoom conferences to allow her students as much flexibility in organizing their work as possible.

Creative results

It was important to her to give her students creative (away from the screen) and descriptive tasks as well as discursive tasks to familiarize themselves with the texts. 'I began by having them draw a didactic map for lifeworld orientation which was to be extended by a detailed text and having the students comment on each other's work. The results were exceptionally creative!' Henn emphasizes. The next step was a theoretical definition of everyday life and everydayness. The measures for containing the coronavirus pandemic provided a suitable starting point: students were asked to reflect on the theoretical concepts on the basis of their own current experiences of everyday life. A portfolio covering all the exercises then served for assessing the students' performance.
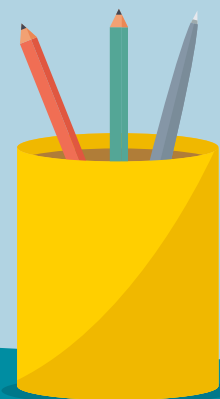
For textual analysis, Henn primarily made use of the 'Annotation' and 'Forum discussion' functions on Moodle. In that way, joint textual analysis was very feasible. Participants were asked to develop their own questions for understanding and discussion and in turn work on at least two questions from their fellow students.

Compensating for a lack of social exchange

After discussing this with her participants, she adjusted the approach towards the end of the semester and, for the final topics, split them into groups – on the one hand, in order to divide the workload, and on the other hand, to make up at least partially for the lack of social exchange among the students.

Henn's conclusion: 'Overall, this method worked well to the extent that participation remained at a high level throughout, the work results were evidence of good learning processes, and few students dropped out of the seminar or were unable to cope with the requirements.' For herself, Henn found it helpful to keep an open mind with regard to this new requirement, rather than dismissing online teaching as impossible. She has praise for the various offers of support from the university. However, getting her bearings in a digital jungle had been a great challenge, not only in terms of time.

uni-w.de/on9ap

Prof. Dr.-Ing. Anton Kummert (l.) and
Dr.-Ing. Jörg Velten

PROF. DR.-ING. ANTON KUMMERT & DR.-ING. JÖRG VELTEN

Discipline: General Electrical Engineering and Theoretical Communications Technology in the School of Electrical, Information and Media Engineering

Award received for:
Lecture: 'Signals and systems'

The lecture 'Signals and systems' is an advanced foundational subject for the degree courses Electrical Engineering, Information Technology, Industrial Engineering, Computer Science and Applied Science and is heavily based on mathematical transformations and concepts in linear algebra. Irrespective of the Uni@Home format, it is a challenge that students' foundational mathematical knowledge is very inhomogeneous and not sufficiently consolidated. In addition, this lecture is not only about knowing and mastering mathematical transformations and solving mathematical problems, but also about developing an intuitive and technology-related understanding of frequency spectra and similar concepts.

'Many students struggle with the latter aspect in particular, and Uni@Home teaching created additional obstacles,' Prof. Dr.-Ing. Anton Kummert knows. As usual, the lecture is accompanied by exercises on the whiteboard: this is to practise mathematical concepts, consolidate calculation processes and work out solution strategies. It also serves to demonstrate the skills and content that will be required and included in the final written examination.

'Developing solutions in writing on the whiteboard in direct discussion with students had to be replaced by alternative methods in the context of Uni@Home,' Dr.-Ing. Jörg Velten explains. The students were therefore instructed in independently realizing systems using the MATLAB programming language to make complex mathematical correlations audible, visible and comprehensible. In addition, it was possible to provide personal assistance to individual students in break-out sessions, which is not normally possible in a lecture with an audience of 200.

Inductive teaching method

While the teaching method of such a lecture traditionally tends to be deductive (starting from general mathematical laws and only moving on to concrete examples at the end for the purposes of demonstration), in the Uni@Home format, the existing script (available on Moodle) was complemented by an inductive method during the live lecture on Zoom as a contrast. 'Using a specifically defined and very clear system example, we explained the usual teaching content very clearly, only abstracting it to a general level in a second step,' Kummert reports.

'The inductive teaching method in the lecture as a complement to the strongly deductively structured script will no doubt also have an impact on our future face-to-face teaching; likewise, the MATLAB demos developed can also be integrated into a face-to-face lecture,' says Kummert. Despite the best efforts, direct exchange with the students was missing in the Uni@Home format, as students appear to be less inhibited to ask questions in the lecture theatre. 'The speed of the presentation and a more in-depth treatment of complex proofs are easier to adapt to the students' response in face-to-face teaching,' Velten adds.

uni-w.de/rt857

When Uni@Home teaching was announced, the focus of Prof. Dr.-Ing. Matthias Pulsfort was on communication and the availability of all staff in the department. He and his team immediately provided office hours via Zoom, as at that stage, term papers still had to be handed in and dissertations still had to be supervised. With a special page on the department's own website, they kept the students up to date.

The award-winning mandatory module 'Basics of geotechnical engineering' consists of a lecture teaching the methods and theoretical background for the dimensioning of simple earthworks and foundations as well as of an accompanying presentation exercise in which the different calculation methods are explained and demonstrated using examples.

> Videos supporting
> personal learning speed

All the lectures and presentations of the module were recorded in advance and uploaded to Moodle. 'In this way, the students were able to pause the videos at any time, listen to certain parts again, and even adjust the speed to their personal learning speed,' Matthias Pulsfort explains. In addition, they were able to use the videos in preparing for the exam. The slides shown were supplemented primarily by videos of model experiments and photos of practical applications, so as to compensate for the lack of experimental demonstrations in lectures and of educational excursions.

To avoid individual videos becoming too long, the structure of the lectures was revised and broken up into smaller steps. The slides of the short presentations had audio recordings added directly in PowerPoint and were then converted to videos. 'There are several advantages to this: on the one hand, notes can be added to the slides and laser pointer movements can be recorded as well. On the other hand, you can still discuss individual slides at a later stage without too much effort,' the award winner says.

> Approach endorsed by
> feedback from students

Videos were also made for the exercise accompanying the lecture. For these, most of the content was only developed in the course of the exercise video by adding text to the slides. To give students the possibility to ask questions during the lectures and exercises, the de-

PROF. DR.-ING. MATTHIAS PULSFORT

Discipline: Geotechnical Engineering in the School of Architecture and Civil Engineering

Award received for:
Module: 'Basics of geotechnical engineering'

partment created a forum on Moodle. 'The students made good use of this – compared to the previous semester, they even made more use of it than asking questions in face-to-face teaching,' Pulsfort says.

He and his staff spent most of their time planning, preparing and presenting the module. But in doing so they made considerable progress in terms of digitization. 'It was very helpful to us to consult with colleagues and to receive feedback from students, which we sought in early May – i.e. after just a few weeks of Uni@Home – and which endorsed our approach. In particular, the ability to review the videos before the exam was a great added value for the students, which was reflected positively in the exam results,' the engineer adds.

uni-w.de/cj5hb

DR. BIRTE KELLERMEIER-REHBEIN

Discipline: German Linguistics
in the School of Humanities

Award received for:
Undergraduate seminar: 'Lexicology'

At first, Dr. Birte Kellermeier-Rehbein had doubts about the chances of success for digital teaching – in particular, due to the lack of direct face-to-face contact. Nevertheless, she kept an open mind and quickly found that she wished 'to make the most of it'. In designing her seminars, the lecturer operated according to the principle, 'Digitally – but realistically!': not only was the seminar to be manageable for the students in a reasonable amount of time, but should also allow good and lasting learning outcomes.

Weekly exchange

She her didactic concept for the undergraduate seminar 'Lexicology' simple. It was centred on clearly designed Moodle courses containing the relevant seminar plan with information on the topics of the individual sessions and a reading list. She clearly communicated the learning objectives for each topic and the literature to be worked through. She primarily chose texts that were available electronically from the university library and, where that was not the case, provided scans of the passages to be read. In addition, she posed key questions on the texts to help the students identify the most important aspects. For some texts, there were sheets with further exercises, and each Moodle course concluded with a forum where the students could ask further questions.

To stay in touch with her students, Kellermeier-Rehbein offered an online seminar session each week. In terms of the media used, the lecturer deliberately kept things simple, so that the students' attention would be focused on the course content. Everything was implemented using the basic functions of Moodle and Zoom.

Positive results

In retrospect, the lecturer did not find 'taking the plunge' too uncomfortable: 'The staff at ZIM had prepared everything so well that most things could be mastered intuitively. When faced with technical problems, I was able to call on my student assistant Jonathan Flender, who also had to serve as a guinea-pig on several occasions when I wanted to try out something new,' Kellermeier-Rehbein says. Moreover, in the course of the semester, assistance and exchanges between colleagues were a valuable support.

Uni@Home was a challenge for the lecturer which she ended up having fun with. Engaging with this new teaching method provided her with many positive insights; as a result, she wants to combine analogue and digital teaching in future in a didactically appropriate way that supports learning. But she has no intention of getting used to a situation in which she never gets to see some of her participants, which also gave her pause for thought: 'Whether they too were able to develop their knowledge (and other things) will likely remain a secret of the digital world.'

uni-w.de/hqy3l

PD DR. CHRISTIAN KLEIN

Discipline: Contemporary German Literature
in the School of Humanities

Award received for:
**'Comics and graphic novels in literature
and media studies'**

The aim of the lectures that Christian Klein had prepared for the 2020 summer semester was to provide his students with an overview of the history of comics and on issues of the special production, distribution and reception of comics, to present important comic genres and their classics, and to open up theoretical and analytical views on comics. 'It was clear to me early on that, in the individual sessions, I wanted to try and combine different media in as varied a way as possible,' the lecturer explains. Familiarizing himself with the possibilities of digital teaching was confusing for him at first. Gradually, however, a concrete way of transferring his lectures into the digital realm emerged.

Screencasts and many additional materials

The literary scholar focused on an asynchronous format, combined with regular exchanges such as for answering questions, and continuous assessment. At the beginning of the semester, Klein used a welcome video 'to explain the rules of the game'. Finally, he put the teaching package for each weekly session online for his participants. Each such package included either a longer or several shorter screencasts, as well as a large selection of additional materials which his students could use for self-managed further study. For instance, in the course of the session on the history of European comics, he included a TV documentary on the Belgian magazine Spirou, while the session on the development of post-war German comics was supplemented by a podcast on Rolf Kauka, the creator of Fix and Foxi, and a website on East German comics. At the end of each session, the students were asked to complete a short test which was only available after working through the documents provided and only until the date of the next session. Having passed the tests, students were able to download the slides of the screencasts.

Online teaching approached with seriousness and commitment

'The tests provided the students with automated, but nonetheless nuanced, and immediate feedback; in addition, passing a set number of tests with a pre-set minimum score was a precondition for passing the module. With this combination of self-directed learning on the one hand and mandatory assessment on the other hand, I tried to take account of the students' needs,' Klein sums up.

He will try to make productive use of a whole range of experiences he has made over the course of the semester in his future teaching as well. He also stresses the support he had enjoyed from his students, who had approached online learning with seriousness and commitment. His conclusion is this: 'Including elements of digital teaching can, in my view, complement and enrich face-to-face university teaching in a really useful way, but cannot replace it permanently.'

uni-w.de/zspqh

APL. PROF. DR. JEAN RUPPENTHAL

Discipline: Complex Analysis in the School of Mathematics and Natural Sciences

Award received for:
Lecture: 'Analysis 2'

Analysis is an essential cornerstone of mathematics education and is therefore usually done at the beginning of a degree course. These lectures not only present the basics of differential and integral calculus, but also fundamentally shape mathematical thinking and expression. 'The most successful way of doing this is by a highly interactive mix of writing things down, demonstrating, drawing, gesticulating, asking questions, discussing, and encouraging students to think for themselves and do their own research. This was a challenge for distance teaching and learning, because I did not want to do without a real blackboard nor without direct dialogue with the students,' Jean Ruppenthal explains.

Focusing on the essentials

For each lecture unit of normally 90 minutes, he therefore recorded a 50 to 60-minute video in the lecture theatre and put it on Moodle for asynchronous consumption a few days before the date of the relevant lecture. Then, on the actual date, he met with the students on Zoom to discuss the material. The students were asked to have watched the video beforehand and to come to the meeting with questions. Analogously, tutorials and exercises on the lecture were also held online as live Zoom meetings by the graduate teaching assistants.

'In the videos, I limited myself to the most essential points of the material, thereby reducing 90 minutes' worth of material to 50 or 60 minutes, because it is not easy to follow such a long lecture video with a hundred per cent of one's attention,' Ruppenthal says. This was compensated for by a script, also published in advance, in which all the details were discussed at length.

But since this could not replace direct personal contact, the mathematician and his team opened up various channels of communication. Specifically, these were different RocketChat channels, with and without the involvement of the lecturer. There was also a forum where the students could post criticism, concerns, fears, troubles, but also praise anonymously, as well as an interim evaluation running continuously throughout the first half of the semester.

Forums for anonymous feedback

By making use of various channels of communication in addition to the imparting of knowledge, Uni@Home also has its benefits, according to Ruppenthal: such as having anonymous forums and/or chat channels or by providing an opportunity to answer a question by the lecturer during the lecture without the whole lecture theatre hearing (and seeing) it. This encourages those students to take part who would otherwise be more reticent. Not least, learners always benefit from a good selection of learning materials that can be used asynchronously.

The award winner would also like to express his special thanks to the tutors: 'Thanks to their skills with the various media and their huge commitment, the students and I ended up having a pretty decent semester despite the coronavirus.'
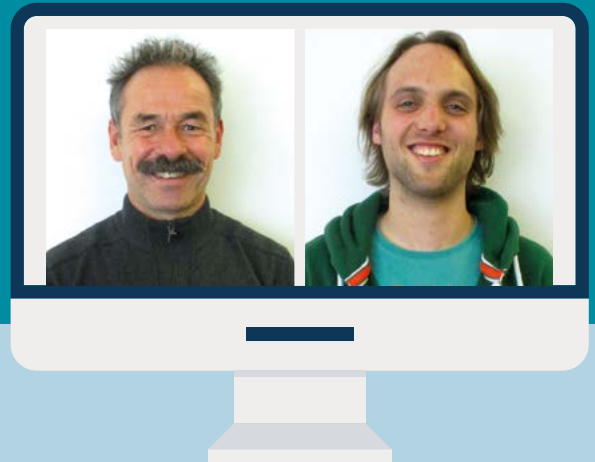
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PROF. DR.-ING. AXEL SCHUMACHER & FABIAN PLATE, M. SC.

Chair for the Optimization of Mechanical Structures in the School of Mechanical Engineering and Safety Engineering

Award received for:
Lecture: 'Structure optimization'

Prof. Dr.-Ing. Axel Schumacher (l.) and
Fabian Plate, M. Sc.

When it became clear that students were not going to be physically present in classes in the new semester, Prof. Dr.-Ing. Axel Schumacher and his team systematically looked for new teaching solutions.

'We didn't want to do something that would have made for a torturous semester for both sides. We also wanted to ensure comparability with previous years,' Schumacher says.

His research associate Katrin Weider specialized in using the special features of Moodle and Zoom to enable collaboration and tutoring in small groups online. Fabian Plate made himself busy sounding out the technical limitations of online transmission (audio and video technology). Having procured the necessary technical equipment, he and his colleague Simon Link experimented with lighting, screens and various projectors.

Conveying enthusiasm for the subject

For according to Schumacher, besides using PowerPoint and a whiteboard, a lecture also involves a lively presentation to convey both the content of the subject matter and enthusiasm for it. 'It's also important to have the opportunity for intense interaction with the students, even in larger lectures,' the award winner says.

The chosen format was a live stream provided on YouTube. This also involved the use of OBS Studio, a freeware solution which is used by most YouTubers. It allows the live streaming of different sources (several cameras, mikes, digital contents, etc.). 'In practice, this means that the lecturer presents their lecture in front of two cameras and two mikes. One camera films the projector screen where they present their slides, and a second camera films the large whiteboard right next to the projector screen. In this way, you can switch between the two. The signal currently being streamed can be monitored on a screen,' Fabian Plate explains.

In addition, there is an assistant producer operating the two computers. One of these is the production laptop with OBS Studio, where they can select the right camera and feed in other signals. The second PC shows the YouTube stream from the students' point of view. This allows monitoring transmission quality and communicating with students via the chat function.

The streams then stayed online as videos and could be reviewed later by the students. There were a number of students who attended every live stream and a slightly smaller number who watched the lecture later. Some students also made use of the options of slowed-down playback and of automatically generated subtitles. According to Axel Schumacher, their feedback was extremely positive. 'Our experience showed that the streaming was indeed suitable for different learning styles among students. Moreover, in this way, they had more flexibility in organizing their own time.'

uni-w.de/-v07q

Uni@Home Special Teaching Awards

PROF. DR. BIRGIT SPENGLER

Discipline: American Studies
in the School of Humanities

Award received for:

**Lecture: 'Major topics in 19th-century
U.S. literature and culture: from the early
19th century to the Civil War'**

Originally, Prof. Dr. Birgit Spengler had planned a series of lectures with visiting lecturers. The coronavirus pandemic upset her lecture plans, and the literary scholar had to design a different lecture at short notice. A particular challenge was how to pace the different elements of the course in designing distance learning processes.

The crucial question for her to consider was how students, who might potentially be affected by the pandemic in many different ways, could be enabled to do meaningful studying during the summer semester. Therefore, the lecturer decided, as a matter of principle, to combine mandatory asynchronous learning and teaching formats with voluntary synchronous elements, so as to allow students to manage their time flexibly and individually. In doing so, it was of great importance to Spengler to provide a clear order and structure for exercises, so that her course participants had planning security. Besides lively exchanges with colleagues, it was particularly the School's handouts, the ZIM, and her staff member Eva Mangieri that assisted with planning and delivering her lectures.

uni-w.de/90vwt

Her lecture in American studies was finally structured as follows: At the time of each session as originally scheduled, she made available the relevant lecture in the form of several screencasts of about 15 minutes each and, where appropriate, additional materials such as excerpts from texts, image materials, etc. Short exercises at the end of each screencast were intended to encourage active engagement with the contents of the lecture. Students were able to work through the materials at any time within a 5-day period. To allow her participants to also ask direct questions about the materials or discuss the content should they need to, Spengler set up a voluntary synchronous Zoom session at the time of the lecture as originally scheduled.

A virtual excursion to the Library of Congress

As a final mandatory component each week, students were required to submit a 'response'. This was designed, on the one hand, to check whether the screencasts had in fact been viewed. On the other hand, it served as an opportunity to articulate personal interests and to familiarize oneself with scholarly resources. For example, one exercise included a virtual visit to the digital image collection of the Library of Congress, another asked students to browse the records of the Massachusetts Historical Society. This approach allowed her students, above all, to discover and/or develop their own research interests.

'Not least, our library team made a special contribution to the success of my course. Without the possibility to partially digitize library stocks and the swift response to queries and without the opportunity to acquire relevant academic literature anew in digital form at short notice, the summer semester would have taken place under very different, and much more adverse conditions,' Prof. Spengler acknowledges.

DEBORA WESTERHOLT

Discipline: 'Zoology and teaching biology' in the School of Mathematics and Natural Sciences

Award received for:
Seminar: 'Plants and animals in biology lessons'

mentation of the course of the lesson allowed all course participants to imagine the teaching situation as best they could. The academic background of the topic of the lesson and related didactic issues were presented in the form of an e-lecture (slides with soundtrack), with the most important aspects made available as a handout.

> Acceptance and openness on the part of the students

The centrepiece of teacher training teaching is the independent processing of academic and didactic topics related to the subject, planning lessons and designing teaching materials by the students, followed by a discussion and reflection. For Debora Westerholt, switching to Uni@Home came with the challenge of shifting the triad of designing, implementing and reflecting on teaching situations towards the two elements of planning and reflection, without students finding the same approach each week monotonous or of little use for their professional development.

New ways of reaching old goals

In designing her teaching plan, she took great care to ensure that the original learning objectives would still be met (e.g. independent study of the academic and didactic background of a subject, designing lessons, getting to know a variety of methods). Westerholt used different digital tools as delivery and communication channels. In general, the seminar consisted of two stages: first, the students designed lessons, taking account of subject-specific didactic aspects, and produced materials in small groups. The delivery of the lesson was illustrated by a video they recorded themselves. In addition, a detailed written docu-

As a second step, in weekly online sessions, the didactic issues from the e-lectures were explored in depth and the lesson plans reflected on. 'At this point, there was also a welcome exchange about practical experiences. Following the online session, students solved test questions in a 'Moodle Quiz' to test their newly acquired didactic knowledge on the subject,' Debora Westerholt explains. On the basis of the feedback received, students then prepared lesson plans for the lessons presented, which they made available to each other on Moodle.

'Even in the Uni@Home semester, I got to know very committed students who invested a lot of blood, sweat and tears into their lesson plans and presentations and were always eager to extend their (subject-specific) didactic knowledge,' Debora Westerholt sums up. It was only through the acceptance and openness on the part of the students and their engagement with this unusual format, their active participation, many contributions to discussions, and reports from practice that the course design was successful.

uni-w.de/x5v3r

CHRISTOPH WESTERMEIER

Discipline: Photography as Artistic Practice
in the School of Art and Design

Award received for:
Seminar: 'Advanced photography'

Christoph Westermeier teaches Photography as Artistic Practice. In his courses, he presents photography as an omnipresent medium in the everyday lives of people, ranging from politics through lifestyle to journalism and art. Generally, this is done by jointly reading media-specific texts and analysing specific positions in the history of photography. In his teaching, the lecturer places great value on combining theory and practice. In planning for Uni@Home, Westermeier faced the challenge of needing to rethink the haptic component of this teaching: 'Digital working methods and equipment play a major role in contemporary photography, so digital teaching is an obvious approach for a (mostly) digital medium. But if the students do not have the appropriate camera equipment at their disposal, this discourse can easily become meaningless.' However, if there was a feeling for and understanding of artistic issues in photography, exciting projects could be implemented with any camera.

'To create an analogous group experience in the digital realm, the students and I read a typographically very elaborately designed (printed) book. At the beginning of each session, the participants took turns to read a chapter aloud and then discussed it with each other.' Practical exercises were inspired by the 'Situationist International' group of artists, which questioned power and social structures from an artistic point of view in the 1960s.

Openness and empathy

Westermeier first presented the working method of the group, then his students were given a task to do: on Sunday, 26 April, at 11 a.m., all of them – no matter where they lived or what the weather and their state of mind were like – were to leave the house, turn left, take a picture; turn right at the nearest opportunity, take a picture; turn around after 100 metres and take one picture looking up and one picture looking down. All four pictures were to be presented on one page as part of the next session.

'While some could complete the task in the urban environment of Wuppertal, others had to do some serious walking in the countryside. The unifying factor was that all students were pursuing the same activity at the same time and, in doing so, intensely perceiving their environment,' Westermeier explains. The task sharpened the students' photographic eyes, so that they were able to develop and carry out independent projects during the course.

'I did not regard Uni@Home as a semester that had been moved from the analogue to the digital realm, but as something completely new. I tried to engage with the students' situation with openness and empathy and to take into account day-to-day political events. There are a lot of opportunities in digital teaching if it is used reflectively,' the award winner concludes.

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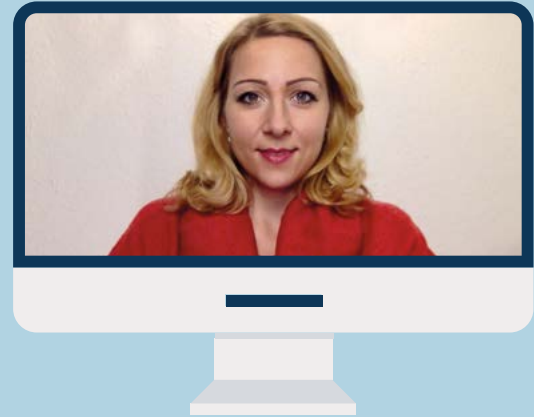
LAURA WIEMER

Discipline: Romance Studies in the
School of Humanities

Award received for:
Seminar: 'Encuentros y desplazamientos'

Before the beginning of the summer semester, Laura Wiemer's international literature seminar was about to be cancelled: as part of the international study and training partnership with Universidad Nacional de La Plata in Argentina, she had co-designed the seminar 'Encuentros y desplazamientos' together with three lecturers from the partner university for both Spanish-language students from Wuppertal and visiting students from La Plata. Uni@Home meant compensating for the cancellation of the visit from Argentina and to allow for a five-hour time difference. She also faced the challenge of not being able to communicate with her international visitors via Moodle, because they did not have accounts. To be able to stick to her planned format, the Romance scholar decided to send teaching materials, information and contact details back and forth between Germany and Argentina.

Co-ordination with Argentine colleagues

For the most part, the seminars consisted of an asynchronous stage and a synchronous working stage building on that, each lasting 45 minutes. For the first stage, the guest lecturers provided the materials, which the students were able to work through at their own pace and in their own time. The second half of the seminar was made up of Zoom meetings with the Wuppertal students to have discussions, explore the content further, answer questions and ensure learning outcomes. 'On top of the time difference and the lack of Moodle accounts, the challenge for the Argentine colleagues was to prepare teaching materials for a group of learners who were not native speakers and whom they largely did not know, and to do so in a way that allowed the students to work on these materials asynchronously and independently,' the award winner explains. Despite intensive exchanges with her colleagues, the Wuppertal lecturer had to didactically edit a large part of the materials for her students, for some of whom Argentine Spanish was a challenge at the beginning of the semester.

In the live course units, she made extensive use of group work, among other things to foster social interaction between the students. 'I also tried to include as many distance-learning tools in the seminar as possible – teaching videos, presentation slides, exercises, video conferences, etc. – so as to make for a varied semester,' Wiemer says. The highlight of the seminar was a Zoom meeting with the Argentine author Laura Alcoba, allowing the students to meet her, ask questions and share impressions from their reading.

'Our seminar is about Internationalization@Home, which made possible valuable intercultural exchange. I am happy and proud about us having accomplished this together. In retrospect, I think the Uni@Home format worked well on our course and definitely has benefits, for instance in forming groups and giving feedback, which I will continue to use,' Wiemer sums up.

uni-w.de/7mvci

Uni@Home Special Teaching Awards

RAINER CARL WIERZCHOLOWSKI

Discipline: Classical Philology/Latin
in the School of Humanities

Award received for:
Undergraduate seminar: 'Invective in Latin literature'

For Rainer Carl Wierzcholowski, the main challenge in transposing learning objectives – with all the associated seminar contents – to distance-learning was to find the right balance between synchronous and asynchronous teaching: on the one hand, it seemed important to him to accede to the students' request for a certain degree of 'normality', which was to be reflected in a familiar learning and teaching setting with weekly contact hours. On the other hand, he wanted to meet the expectation that those with limited technical equipment and internet bandwidth should be able to participate successfully in the seminar.

Keeping an eye on digital library resources

The undergraduate seminar 'Invective in Latin literature' took a longitudinal section through the history of literature in the 2nd and 1st centuries BC, focusing on phenomena of invective and disparagement in their literary implementation and social significance. The objective of the seminar was to acquire a general knowledge of important pre-classical and classical Latin authors as well as to practise subject-specific methods of textual analysis and interpretation. The seminar was also intended give the students the tools and skills required to be able to write a scholarly term paper in the subject area. In this context, it was of paramount importance to take into account the students' limited access to literature over a longer period as a result of the closure of the library. Digital library resources in his subject still leave room for improvement, Wierzcholowski thinks, but he 'very much welcomed the fact that the university management quickly made funds available for this purpose'.

The lecturer decided to hold the seminar as a weekly session supplemented by the asynchronous provision of slide scripts and an essay. The essay, which was to be written in a period of four weeks in the middle of the semester, was intended to allow students to reassure themselves of the competences they had gained. Students received detailed feedback in personal office hours identifying their current strengths and weaknesses with a view to completing the term paper that served for their assessment. Again and again, the award winner also used multimedia formats to provide a varied approach to the seminar content: besides looking for errors in the Wikipedia article on 'Invective' as a way to set the scene for the seminar topic, the seminar unit on Catullus's invective was introduced by means of a YouTube video on the ancient author and concluded with a specific podcast on his invective.

His conclusion is this: 'The Uni@Home semester sharpened my attention to teaching and learning outside the seminar sessions. Linked to this is a new interest in digital teaching opportunities, whose subject-specific potentials I want to sound out and use more than before in future seminars.'

uni-w.de/pcz3u
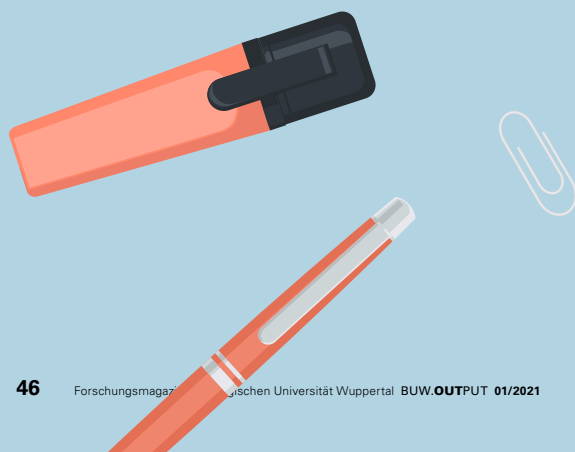
DR. LENNART ZEY

Discipline: Production and Logistics
in the Schumpeter School of Business and Economics

Award received for:
**Lecture: 'Basics of business management II:
Production and marketing'**

The period before the beginning of teaching was very exciting for Dr. Lennart Zey: it quickly became clear for his department that screencasts would form an important part of teaching. 'I had found the idea exciting for a long time, so I greatly enjoyed setting about preparing the videos, familiarizing myself with the software, getting inspired by well-known streamers and "Educational YouTube Channels",' Lennart Zey says.

His lecture is a mandatory module with about 400 first-year students enrolled. In principle, it would have been possible to transfer the lecture and exercise like for like to the Uni@Home format. 'But I depend on students' feedback in the lecture. With such a large number of participants, in my experience, very few people speak up in the lecture theatre. Nevertheless, looking at their sometimes nodding, sometimes quizzical faces, one gets an idea of whether a given topic has been understood. Without the survey function on Zoom and the chat function, this feedback would have been lost,' Zey says.

Exercises by 'Digital Tutor'

The teaching concept allows the students to make use of exactly the amount of support and repetition that they need. A detailed lecture script explains all the content. In addition, there are exercises with detailed solutions. 'As it is easier to understand processes when watching them in action, I prepared concise 10 to 20-minute screencasts on many topics explaining solutions step by step in detail. My aim was less to record complete lectures than to provide an opportunity for understanding specific topics and for quickly refreshing one's knowledge,' the award winner explains.

Lecture and exercise sessions took place on Zoom. Topics requiring great concentration when listening were discussed in screencasts, the remaining topics were explained live. Comprehension was checked using the Zoom webinar survey tool, the teaching speed was adjusted

accordingly, and there was an opportunity to ask questions. 'Compared to face-to-face lectures, there was a lot more interaction, presumably because students are less inhibited to ask questions in an online chat than to do so publicly in the lecture theatre,' Lennart Zey says.

To consolidate the student's understanding of how to use the methods, he had developed the 'Digital Tutor' – a piece of software with which the students could produce random calculation exercises on each topic and have their solution displayed. Zey says: 'The unlimited number of exercises in the Digital Tutor is meant to prevent students from learning a wrong solution method and to increase their sureness and speed in solving different types of exercises.'

His conclusion is this: 'The University of Wuppertal's video portal was important and worked perfectly. In combination with Moodle, I was able to prepare great Uni@Home courses for all my lectures. Zoom also works brilliantly. I particularly appreciated the live survey function.'

uni-w.de/6rrtf