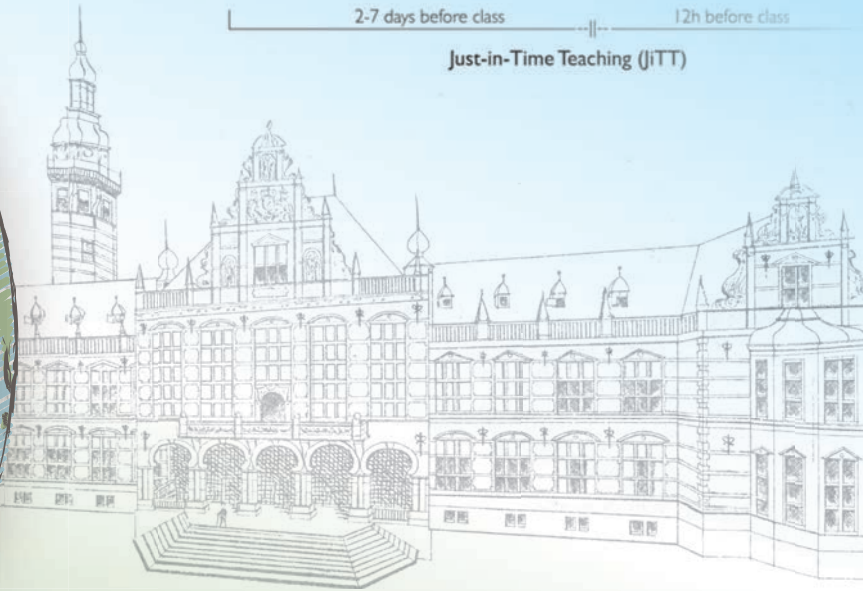
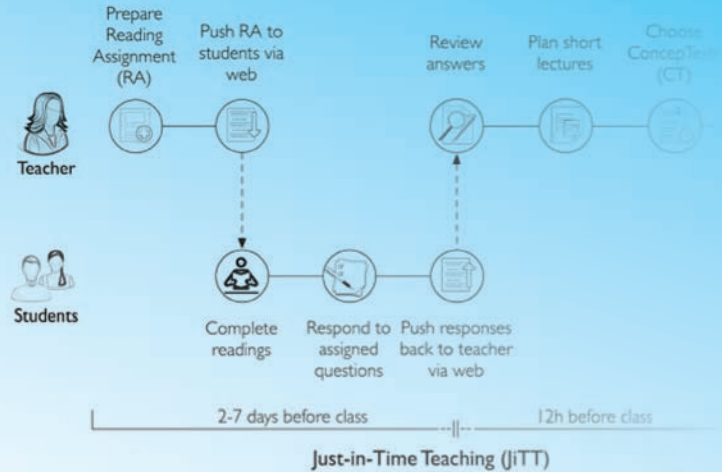




E-learning

Best practices from the University of Groningen



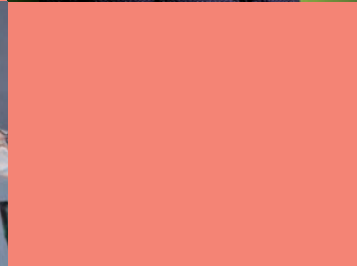
Foreword

Our labour markets are changing. Job duration with the same employer is shorter than ever before and job content is less certain. More and more, our workplaces are becoming places of international collaboration. All in all, current students have more concerns about their future careers and demand more information on 'employability' during their studies. Students also have to become lifelong learners in order to keep their knowledge and skills up to date in a changing world.

New types of learning are required to prepare the students of today. We also want to support students in being more active before, during and after class! Further, we want students to acquire experience in working together on international and other projects. We will not need to adapt all our course units, but some lecturers are already upping the ante. We are lucky that e-learning can be really helpful. There are many tools that can help lecturers to organize their course units in such a way that students can prepare better before class starts, are more involved in collaboration during lecture time, and are asked to apply the content after class. E-learning is becoming more prominent in the educational process. It works via videos, tools for feedback, MOOCs, collaborative work and writing, games, peer-group tools, and much more. Examples can be found in this booklet.

So, on the one hand we are being forced to change the educational model, but on the other hand we are being supported by technological progress. The challenge is to balance the two processes. This is where I ask your attention! Let's use e-learning to the benefit of the future careers of our students.

Prof. dr. E. (Elmer) Sterken
Rector Magnificus, University of Groningen



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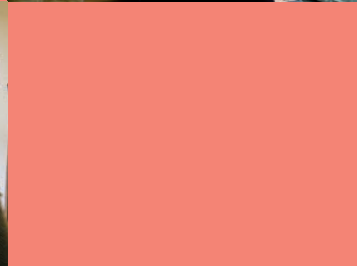
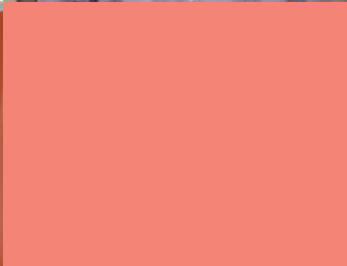
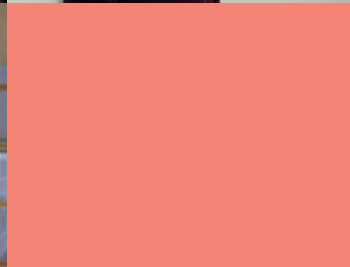


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DR SUSANNE TÄUBER

'It's great to put students in their lecturer's shoes. They use the same eight criteria that I will later use to assess their work.'

Dr Susanne Täuber

Faculty of Economics and Business

As an Assistant Professor and Rosalind Franklin Fellow in Human Resource Management and Organizational Behaviour, Susanne Täuber had an opportunity to design a new course unit for a Minor on teamwork and how people relate to the organizations they work for. Täuber uses peer feedback in Nestor to activate her students. She finds that letting students give feedback is a great addition to conventional teaching.

Täuber explains that soft factors such as trust or communication play an important role in the new course unit. She presents her students with case studies that they then need to apply theories to. Because there is no right or wrong answer for the cases the students work with, Täuber quickly decided that multiple choice questions were not the right method to use. Instead, she now uses peer feedback in Nestor.

She explains how students work on a case study in small teams. Once they have completed the assignment, they are (anonymously) given the work of another group, which they then have to review. 'It's great to put students in their lecturer's shoes. They use the same eight criteria that I will later use to assess their work.'

For Täuber, the great benefit of using peer review is student engagement. Not only do students learn how to give constructive feedback to one another, but the feedback from their peers also shows them whether they are on track with their own case study or whether their work still needs some adjustment.

When it came to practical matters, Täuber has found that exchange students in particular would sometimes have

difficulty finding evaluation forms and exchanging files through Nestor.

'I think one improvement for the future could be to switch from Word

documents to Google documents.' She hopes this will enable all of her students to gain easy access to the documents for review.

'I think one improvement for the future could be to switch from Word documents to Google documents.'

At the beginning of each course unit, Täuber provides guidance for her students on how to give constructive feedback. Her tip: 'Explain to the students why you are using this method. Explain your aims for the feedback they give.' In the course unit manual, she provides detailed instructions on how to give feedback, with examples to clearly illustrate what she expects from students.

To follow up on the feedback given, Täuber also implemented a peer review session at the end of the course unit. Initially, some groups failed to show up to review the feedback, but the session has now been made a mandatory tutorial.

In general, Täuber is happy with the outcomes of peer feedback. 'It's only the second time I'm offering this course unit, but so far students have liked it. They seem to really engage with the theory and can see different ways of applying it.'



PROF. MARC VAN DER MAAREL

‘I talked to my teenage daughter about how she learned things. She told me to go to YouTube.’

Prof. Marc van der Maarel

Faculty of Mathematics and Natural Sciences

During his time as Professor of Biotechnology Marc van der Maarel spent a lot of time outside the University. Four years ago, he decided to take on a full professorship at the Faculty of Mathematics and Natural Sciences. Since then, he has become dissatisfied with traditional lecturing and has turned to short video clips to activate his students.

Van der Maarel looks back on the past four years at his Faculty. 'It has been an exciting rollercoaster ride. University is so different now from what I was used to in the past. I have taken on a lot of teaching and you have to learn to swim without an instructor.'

It is important to him that his teaching stimulates his students to learn and he wanted his students to actively learn about new theories. But he soon became dissatisfied with

traditional lecturing.

When students began dropping out,

Van der Maarel

talked to his teenage daughter about how she learned things. She told him to go to YouTube.

He quickly discovered very good videos, which prompted him to produce his own short clips. But without the structural support of an audio-visual department, he soon came to the limits of his knowledge. 'The biggest drawback was the lack of

support. It's an area I'm unfamiliar with, so I need professional support to guarantee the quality of the videos.'

Van der Maarel also realized that lecturing to a camera felt too static and he decided to look for videos that were already available on the internet. 'With so much out there, there's no need to do it myself.'

He now makes frequent use of video clips and his students mainly use them to help prepare for exams. To ensure effective use of the videos, Van der Maarel came up with criteria that they have to meet. First, videos should be viewable

online on a mobile device such as a smartphone or tablet. He explains:

'You have to keep it simple, students won't watch this on a computer. I think most of them no longer even have one.'

Second, videos should be short. The videos Van der Maarel uses are on average five minutes long and deal with only a single clear concept. He thinks videos any longer

than that will challenge the attention span of students.

When he started using videos, his students soon adopted his way of teaching in their presentations. He laughs: 'They started to use videos that explained theories or concepts instead of explaining them themselves.' So he now makes sure that they understand the point of using videos as a support tool.

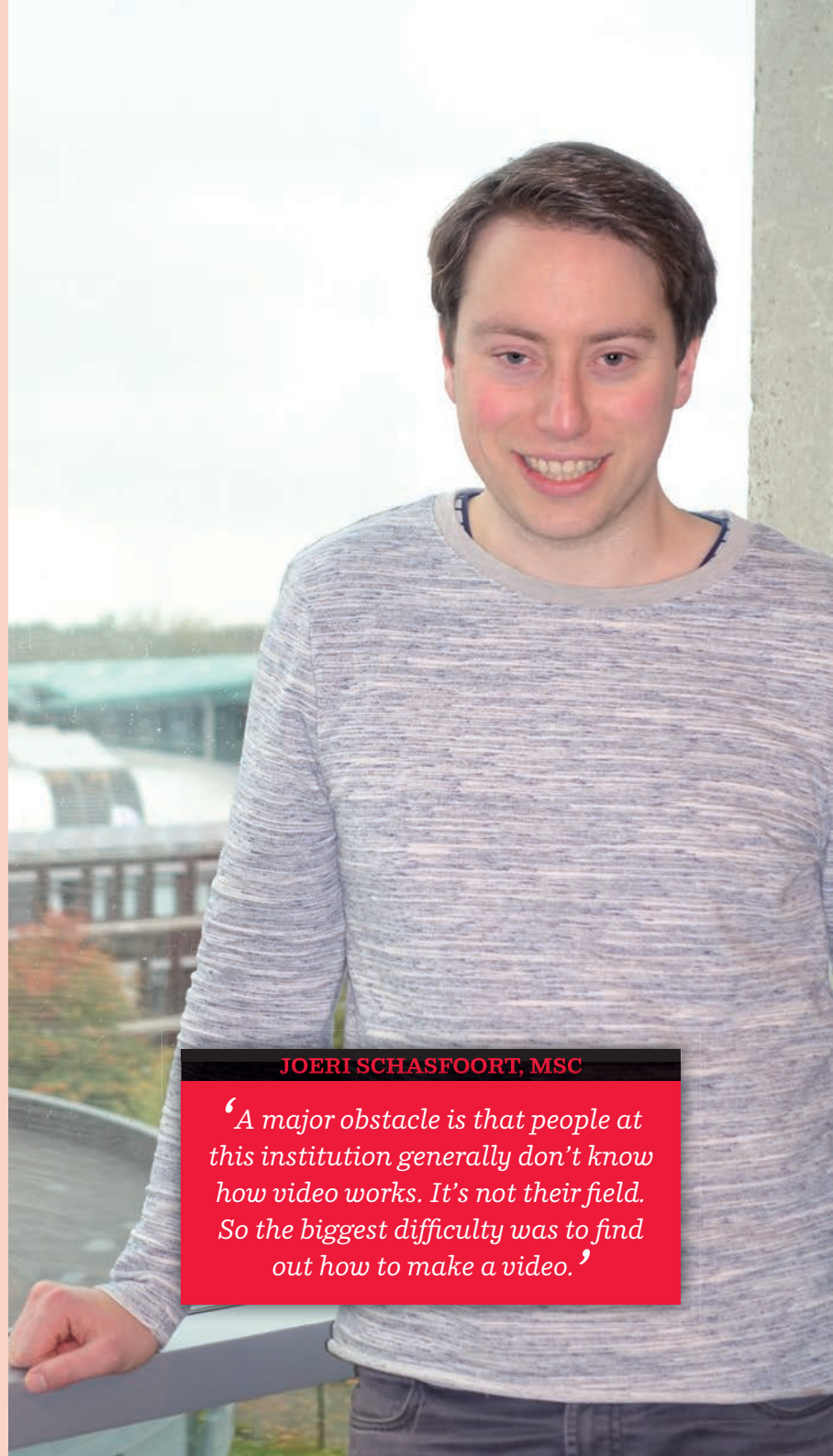
Van der Maarel is clear about his teaching: 'If there isn't optimal support, it becomes a question of trial and error. You have to keep in mind that things won't change overnight.'

'You have to keep in mind that things won't change overnight.'

STUDENT

When Tim Menkveld first saw Dirk Bezemer's video lecture on YouTube, he had just finished a MOOC offered by MIT and thought the time was right to press ahead with new online learning projects. The Master's student in Marketing Management and Marketing Intelligence got in touch with Joeri Schasfoort to learn more about it.

For Menkveld, short video lectures like Dirk Bezemer's 'Debt, a great invention' are more accessible than normal lectures. 'They're more engaging. They look great and Dirk Bezemer is really good in front of the camera.' An essential part of this accessibility is visualization. Menkveld explains that abstract, complex subjects are easier to understand through the use of animations and the like. 'It's also really good that you can view it again. You can pause it and scroll back until you understand it.' He believes that short video lectures are a useful addition to traditional ways of learning.

**JOERI SCHASFOORT, MSC**

'A major obstacle is that people at this institution generally don't know how video works. It's not their field. So the biggest difficulty was to find out how to make a video.'

Joeri Schasfoort, MSc

Faculty of Economics and Business

It all started with proving a point to the Faculty Council of the Faculty of Business and Economics. Joeri Schasfoort, a former Master's student in Finance who currently holds a PhD position, wanted to demonstrate that videos can involve more than simply watching a conventional lecture. His voluntary efforts to produce a video series have proved a life-changer for Schasfoort.

At a Faculty Council meeting, Schasfoort pointed out the trend towards MOOCs and online education. He argued that, given the University's ambition of be one of the top hundred universities worldwide, it was time to try something new. He recalls that the council agreed with him. 'People might agree, but who would actually do it? Also, there was no money.'

Schasfoort therefore took matters into his own hands. He had some experience with video editing and making small animations and he so approached the video department to create a short video series on debt. 'The goal was to prove that we could actually do it even though we didn't really have a budget.'

Although the people involved worked on a voluntary basis and in their own time, they wanted to make the videos as professionally as possible. Schasfoort explains how he and his team began with a script. They worked with

Dirk Bezemer, the presenter in the videos, to create the storyboard and they used the Faculty's own studio to do the filming.

Naturally, the team ran into problems. 'A major obstacle is that people at this institution generally don't know how video works. It's not their field of expertise. So the biggest difficulty was to find out how to make a video.' Schasfoort grins: 'Luckily, we have the internet – I just googled it.' Also, making animations wasn't as easy as expected. In the end, it took about four months to complete four videos filmed in the Faculty's green-screen studio with animations and additional video material.

Schasfoort thinks videos can be more engaging. 'I'm really a visual learner and I often miss having visuals. I think that is a really big advantage of video.' Schasfoort has a simple tip for anyone interested in producing short video lectures:

'A major obstacle is that people at this institution generally don't know how video works.'

'Google some tips on how to make a simple video. You can make really good videos without a lot of resources.'

The video series had a big impact on Schasfoort's own life. 'Making videos landed me two jobs as a MOOC coordinator and has made my life as a future lecturer so much easier. For example, I can use this knowledge if I want to present my research. I now know how to make an effective YouTube video.'

STUDENT

As a student of European Languages and Cultures, Svenja Peters was sometimes frightened by the prospect of actually speaking another language. In her third year, Peters took part in a project to improve her Spanish proficiency. She was paired up with a Spanish trainee teacher and found it a fun way to improve her language skills. Although the project is over, she still has occasional contact with her teacher.

'I really enjoyed it. It helped us a lot.' With the help of SpeakApps, Peters and other students in her group regularly talked to trainee teachers from Spain. Although the app didn't always work and they sometimes had to use Skype instead, Peters especially enjoyed exercises related to everyday life. 'We had to bake a cake and were only allowed to speak Spanish.' It's these simple exercises that helped her improve her Spanish. She spends a lot of time learning the grammar, but speaking can sometimes be 'scary.' Peters found it good to have someone she could speak to in Spanish without feeling embarrassed.

GERDIENTJE OGGEL

'For a telecollaboration project to be successful, both student groups need to find some common ground.'



Gerdientje Oggel

Faculty of Arts

Spanish language instructor Gerdientje Oggel, together with her colleagues Juan Albá Durán and Carolina Fernández Royón, wants her students to both attend Spanish proficiency seminars and actually speak the language with native-speaker peers and improve their intercultural skills. In order to support the students, she and her colleagues implemented a telecollaboration project, an online exchange programme with Spanish trainee teachers from the University of Barcelona, who are supervised by Dr Joan-Tomàs Pujola. It is an international collaboration that works for both sides.

Oggel and her colleagues from Spanish wanted their students to get to know students from the other culture and get used to dealing with cultural differences before their mandatory semester abroad. So she and her colleagues had the idea of setting up an international collaboration programme with Spanish trainee teachers. Oggel explains that this collaboration is now part of a regular third-year course unit. At first, it seemed very challenging to match Dutch students with Spanish trainee teachers because they had different learning goals; one group wanted to learn how to communicate in Spanish and the other one wants to learn how to teach it. 'For a telecollaboration project to be successful, both student groups need to find some common ground.'

But now it seems Oggel and her colleagues

both in Groningen and Barcelona have found the right balance through the online exchanges. In the first seven weeks, the Spanish trainee teachers work together with their Dutch peers on a variety of communication tasks. The Dutch students benefit from these tasks because they practise communicating in Spanish with a native speaker their own age and learn about Spanish culture. The Spanish students get an idea of the language level and specific needs of the language

learners. In the second seven weeks, the trainee teachers design their own, similar tasks using a variety of IT tools. This way, both groups make the most

of the exchange.

Practically, Oggel knows that things like the recording tools, which are necessary to assess the students, could still be improved. For example, SpeakApps, the

tool the students used to make recordings, did not always work and students had to communicate using Skype or other programs. But Oggel is also very happy with the progress they made. 'It's been really rewarding so far. We went to Barcelona, we went to conferences and it's really nice to exchange ideas.' She adds, 'It's just a different dynamic to your job as a teacher.'

Oggel also thinks this collaboration is enriching for her students, as they experience internationalization first-hand and learn from people their own age. Furthermore, the collaboration yields vast data sets from the recording of the exercises, which Oggel hopes to use in future research projects.

Oggel is clear that she wants to continue this international collaboration. She laughs: 'It's enriches your career and is not as hard as it might seem.'

'It's really nice to exchange ideas. It's a different dynamic to your job as a teacher.'

**DR JAN RIEZEBOS**

‘The idea is to provide a type of tutorial setting, where we don’t teach the basics of statistics, but go through the topics quite quickly. We give students a very short brush-up on the topics, some tools to test themselves and some practical things like how to use SPSS software.’

STUDENT

What about online tutorials on statistics? Rianne Oosting, a Master’s student in Technology and Operation Management, has used the practical training offered by the Faculty of Economics and Business since starting her pre-Master’s at the University. For her, it’s an easy way to refresh her statistics knowledge and to know how to actually apply it.

‘I really used it to learn how to record my results. For example, if I have a p-value or t-test, how do I write this down? The tutorials explain it all very clearly.’ Oosting first learned about the tutorials during her pre-Master’s. Of course, she passed her statistics classes, but she thinks students don’t practise statistics enough. Once they have used

statistics for their Bachelor’s or Master’s theses, many students forget it again. Rianne found that the videos and documents with simple step-by-step instructions helped her to refresh what she had already learned. ‘I used the tutorials again in this block and I spread the word to my classmates who didn’t know about them.’

Dr Jan Riezebos

Faculty of Economics and Business

As the academic director of the Careers Company in the Faculty of Economics and Business and Associate Professor in Operations, Jan Riezebos also chairs the committee responsible for e-learning, ICT and innovations in his Faculty. Together with his colleagues he designed online tutorials for statistics to support students and provide them with additional training.

The idea of designing an online tutorial started when many thesis supervisors complained that their students couldn't deal with the statistics required for their research projects. Riezebos recalls: 'There were actually lecturers who started to teach statistics again in the Bachelor's or Master's thesis phase, explaining technical details to students, even though these students had all done the course unit before.'

To investigate the problem further, Riezebos asked Bachelor's thesis supervisors whether the complaints were true and what kind of topics they would like to see addressed.

He and his colleagues also involved statistics professors and the main idea for the tutorials soon became clear: 'Don't make it too complicated.'

For Riezebos, the tutorial is not meant to teach new things about statistics. 'The idea is to provide a type of tutorial setting,

where we don't teach the basics of statistics, but go through the topics quite quickly. We give students a very short brush-up on the topics, some tools to test themselves and some practical things like how to use SPSS software.'

A link to the tutorials, videotaped and designed by Sanne Ponsioen, is available on the Faculty's Nestor page. Riezebos explains that every student embarking on a thesis project is automatically enrolled in the course.

Riezebos believes that statistics is generally well suited to e-learning because it is not susceptible to developments in the field. Moreover, the tutorials can be easily adapted to new software and he hopes to expand them in the future.

Both students and lecturers appreciate the tutorials. While supervisors save time, students can focus on their knowledge gaps and choose topics that are relevant to

their thesis. 'One colleague even enrolled all of her students because she thought it was good for them to have this extra tool.'

For lecturers wanting to do something similar, Riezebos has the following advice: 'Define the need from the students' perspective and also find an approach from the lecturer's perspective. Make it a joint problem and provide both student and lecturer with resources to work on the issue.'

'Don't make it too complicated.'

A portrait of Roelof Kammenga, a middle-aged man with short, light-colored hair and glasses, wearing a blue patterned button-down shirt. He is smiling slightly and looking directly at the camera. The background is a solid light green color. The portrait is framed by a red border on the left side of the page.

ROELOF KAMMENGA, MGM

‘First, it’s a database for research. Second, the KTC has upgraded the quality of the skills assessment forms. Third, we give students feedback as quickly as possible.’

Roelof Kammenga, MGM

Faculty of Medical Sciences

In the first year of the Master's programme in Medicine, students have to train their skills at the Clinical Training Centre (KTC) before they are allowed to work in the hospital. Assessing the students' skills always resulted in an 'explosion of paper.' That's when Roelof Kammenga, IT manager at the Faculty of Medical Sciences, introduced the digital pen for skills assessment. Kammenga: 'That was eight years ago and it's still used every year during exams.'

Before the digital pen was introduced, three problems hampered the smooth running of the skills assessment process. First, there was a delay in feedback to students. Kammenga recalls that it took up to a week before students knew whether or not they had passed the exam. Second, to receive the feedback, students had to pick up a copy of their assessment forms from the service desk. Not every student who passed the exam actually saw the feedback, even though the information on the forms would help them improve even further.

The third and biggest problem, however, was the enormous administrative component of the assessment. Kammenga calculates: 'There are four examiners, eight students, eight types of skills to be tested, which means 24 papers. And the administration had to do register, publish,

copy and archive all those papers. And one part of the paper was sent to the students and another part had to be destroyed. So there was also money involved.'

Kammenga introduced the digital pen without any resistance from examiners. Students now receive their feedback at the end of the examination day. The only differences are the digital pen and customized paper, which enable the pen's software to process the information recorded by the camera inside the pen.

Since the pen was introduced, Kammenga and his colleagues have designed a portal to which data from the pens is sent so that examiners can discuss a student's performance and if necessary make changes before the student receives feedback. Implementation was a lot of

work for Kammenga, but he would definitely do it again. 'I'd do it again because I like to take small steps, learn from them and then go to the next step and the next.'

But there were some difficulties too. Because the skills evaluation forms are still completed by hand, guidelines had to be developed to make absolutely clear how the forms should be filled in using the digital pen. This eliminated any confusion arising, say, from an examiner not ticking a box but making a mark next to it. Also, the customized papers have to be printed a day in advance, which means examiners can't make any last-minute changes.

Ultimately, Kammenga sees three major benefits of using a digital pen: 'First, it creates a database for research. Second, the KTC has upgraded the quality of the skills assessment forms. And third, we can give students feedback as quickly as possible.'



DR KILLIAN MCCARTHY

‘Basically, you just have to trust the ICT people. They know what they’re doing. And they have set it up really well. It’s almost bulletproof.’

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STUDENT

Former international business student Magdalena Langosch took her first and so far only digital exam in one of Killian McCarthy’s classes. At first she was nervous, but now she recommends that more lecturers use digital testing in both multiple-choice and essay exams.

‘When he first mentioned it during a lecture, I thought “Okay, I’m screwed.” Langosch explains that she was worried about failing the exam because she thought she was a slow typer and couldn’t type without looking at the keyboard.

But once the exam started, she didn’t have time to be scared and quickly appreciated the benefits of a digital exam. ‘I really liked it because it makes it much easier to rewrite things. You can delete something and you also have a word count.’ She also sees it as a time-saver because it takes a lot of time just to write down your name, course details and student number on each sheet of paper you use.

Especially during multiple choice exams, Langosch prefers to fill in a completely new sheet if she wants to change an answer rather than worry that her lecturer won’t know which box she ticked. She estimates that she saved about twenty minutes in the digital exam, time she could spend on actually answering the questions.

Langosch has some simple advice for students taking their first digital exam: ‘Don’t panic.’ She didn’t have any problems, and the fact that she also had a hard copy of the exam to make notes and highlight things helped her a lot. ‘It’s fun to do,’ she laughs.

Dr Killian McCarthy

Faculty of Economics and Business

Back in 2012, Killian McCarthy, Assistant Professor in the Faculty of Economics and Business, was the first lecturer at the University of Groningen to use digital testing in his course unit International Strategic Management. Since then, he has become a big fan and hopes to encourage more of his colleagues to use it.

During one of his exams, McCarthy had an epiphany that changed the way he sets exams. While supervising his students, he noticed that they were doing the test on top of computers that were folded down into the desks. He couldn't help but wonder why the computers were never used during the exam.

Another reason for doing digital testing was that he couldn't bear to see handwriting anymore. 'How often does this generation still write things out by hand? Students type all their lecture notes on their computer, so why not do the exam on the computer?'

So he contacted the Educational Support and Innovation department and together they implemented the first digital test. Since then, he has become a big fan. 'Nothing is different. That's the beauty of it. You simply go on to Nestor as usual. You log in using your normal student number and when you go on to Nestor, you just click on the exam that you are doing. That's the only thing you can access.'

McCarthy can of course understand his colleagues' concerns that something could go wrong. But he has only ever experienced minor problems. Student assistants from Nestor Support are now available during the exam to solve any computer issues. The computer automatically saves the exam every thirty seconds and even in a worst case scenario such as a power outage, students could finish the exam on paper. McCarthy: 'Basically, you just have to trust the ICT people. They know what they're doing. And they have set it up really well. It's almost bulletproof.'

McCarthy sees three big advantages in digital testing. First, it's time efficient, saving him time during both the grading and exam review phases. Second, he thinks students work more efficiently. 'They start thinking more sharply and efficiently because we are all used to writing and then editing and editing and editing.' Third, it solves the problem of students continuing to write after the exam has ended. 'Now I just announce that it will close at three o'clock and everything beyond that time won't count.'

Finally, digital testing is also a way for McCarthy to avoid his own biases. He only sees the student number while grading and because everything is typed he is not influenced by the handwriting. 'As a lecturer you read it as neutrally as you can. When you see beautiful handwriting, you cannot help but think that this person probably knows what he or she is talking about. Whereas when you see bad handwriting, you think that person hasn't made an effort. It biases you straight away.'



JASPER HOLLENBEEK BROUWER

‘Think about the next step, what you want to do with the prototypes once the hackathon is over.’

Jasper Hollenbeek Brouwer

Faculty of Medical Sciences

Jasper Hollenbeek Brouwer has worked as a curriculum manager at the Faculty of Medical Sciences since the start of the G2020 curriculum. He is also the Faculty's e-learning coordinator. After making a quick inventory of what was already happening in terms of e-learning, Hollenbeek Brouwer had a clear mission: to give e-learning a boost. To do so he organized a hackathon at the UMCG to build e-learning tools to support medical education.

Hollenbeek Brouwer says that although some lecturers were already enthusiastic about e-learning, not many used it. He therefore wanted to get more people involved. During the hackathon, teams had 24 hours to come up with an e-learning prototype that could be used in medical training.

He and students of event organization from the Hanze University of Applied Sciences Groningen

had three months to make the hackathon a success. 'There are so many things you need to consider all at once, but in the end the preparations went pretty smoothly.'

During the preparation period, Hollenbeek Brouwer learned the importance of making sure that the hackathon's many participants were well looked after. Because the event took place at the Faculty, sleeping bags, food and drinks had to be provided. 'But you also want to

have fun, so we installed a huge table football table and arranged for a motivational speaker to kick off the event.'

To get people enthusiastic about e-learning, Hollenbeek Brouwer invited medical students and staff to either

participate in the hackathon or join the kick-off and the final presentation of the prototypes. 'It was a nice vibe, a great process and people

were very positive about it. I even stayed there all night. At first I thought I would go home after a while, but I enjoyed myself so much that I stayed.'

Hollenbeek Brouwer has some practical tips for his colleagues to make a hackathon a success. 'Think about the next step, what you want to do with the prototypes once the hackathon is over.' He explains that some were disappointed because their prototype has not yet been

turned into a product that can be sold. Hollenbeek Brouwer therefore recommends thinking further about what contestants can do with the prototypes afterwards.

He also feels that 24 hours is too short and the focus of the hackathon should be on actual problems that the prototypes could resolve or improve. Finally, the morning after is something to think about. 'People are tired, their energy flags and you need something to really get them pumped up again.'

The hackathon was a great experience for Hollenbeek Brouwer personally. 'You could really feel the positive vibe. But we also need more than enthusiasm. There is still room for improvement in the structural support for e-learning.'



DR RINK HOEKSTRA

‘They were enthusiastic about the videos that I prepared, but they didn’t like being active. They asked “Why don’t you teach normally, like in the rest of our course units?”’

Dr Rink Hoekstra

Faculty of Behavioural and Social Sciences

How about using peer instruction instead of typical lectures to teach students about statistics? To Rink Hoekstra, Assistant Professor at the Department of Pedagogy and Educational Sciences of the Faculty of Behavioural and Social Sciences, this seemed a good idea. But his students weren't as happy as he anticipated.

Hoekstra knows that many students don't particularly like the statistics course unit. They often find it hard to study for themselves. He therefore sees the importance of thinking about teaching methods when teaching statistics. 'Typically students don't come to our department because they want to study statistics. So that's an extra reason to rethink the methodological aspect and ask: how do I teach this?'

Hoekstra started to experiment. About one and a half years ago, he organized his statistics lectures more in accordance with the idea of peer review. He explains: 'The course unit became more about the questions and problems students have with statistics and less about what I have to tell them.'

The main goal was for students to prepare in advance. To achieve this, he and a

colleague asked students to submit questions on Nestor about the course material. 'We told them "Tomorrow, we will talk about paragraph 3 b" and we wanted them to ask intelligent questions about that paragraph.' Hoekstra stresses 'intelligent' because he didn't want students asking generic questions that they could have easily looked up by themselves.

That's where the problems started. 'I was really dissatisfied with the level of questions the students asked. And it was clear that some hadn't actually studied the material,' Hoekstra recalls. 'They were enthusiastic about the videos that I prepared, but they didn't like being active. They

asked "Why don't you teach normally, like in the rest of our course units?" Of course, some students liked it, but compared to previous years students seemed to be more dissatisfied.

'I was really dissatisfied with the level of questions the students asked. And it was clear that some hadn't actually studied the material.'

In retrospect, Hoekstra still has mixed feelings about whether he would try this method again. He still thinks that using it is a good idea because in traditional teaching the sole focus is the exam and not the material that students should study. In the new method, students have to engage actively with the material, which Hoekstra likes. However, he wouldn't do it again, if he was the only lecturer to use the peer review method. Talking about the support he was given, Hoekstra says that the Dean was very positive about his experiment. 'But not many lecturers are interested. In the end, it was my responsibility as to whether or not to try something new.'

Hoekstra gives the following tip: 'Perhaps don't put too much weight on the student evaluation. Students can be wrong too. Look closely at what is said in the evaluation.' Reflecting a little, he adds: 'Try to coordinate things with other course units. Don't go it alone. Instead, exchange with other lecturers.'



PROF. HANS VEDDER

‘This course unit will help you to design a European legal argument that will enable you to win your case..’

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STUDENT

Nicolette Drenth, a third-year Bachelor of Law student, took part in the pre-pilot that Hans Vedder and his colleague Lorenzo Squintani launched in 2014. She is convinced that students will find the flipped classroom approach very useful.

From her own experience, Drenth knows that the flipped version of traditional lectures helped her to pass the European Law course unit, which has the reputation of being the most difficult in the Bachelor’s programme. ‘Although European Law is

one of the most difficult classes I had, it’s the one I learned most from. In other classes, you read the books and that’s that – three months later you can’t remember it anymore. In this class, I still know what I learned.’

Prof. Hans Vedder

Faculty of Law

Critical evaluation – that’s the most important learning outcome that Hans Vedder, Professor of Economic Law, wants students in his third-year Bachelor’s course unit European Law to achieve. To help them achieve this goal, Vedder and a colleague have introduced the flipped classroom to his students.

Vedder really enjoys teaching and wants his students to do more than simply regurgitate what they have learned in lectures or read in books. Instead he trains them to develop their own reasoning and to critically evaluate. He explains: ‘Critical evaluation is part of lecturing, part of the books that I use, part of the reading materials and also part of the test. It means that I try to achieve the highest cognitive level and that’s where I think flipping the classroom is useful.’

For Vedder and his colleague Lorenzo Squintani, who also teaches the course unit, the flipped classroom consists of videos connected to what he and his colleagues call a Cali (Computer Assisted Legal Instruction) module. In this module students have to answer multiple choice questions about the material they have worked on. The idea is to guide students through their independent study and to enable Vedder and his colleagues to analyse the areas where students still lack knowledge. These gaps are then discussed during the lecture.

Vedder explains that both the videos and Cali module will be available until half a day before the lectures. The data then goes to Vedder. ‘It tells us where students have difficulties understanding a particular concept or law.’ Vedder will then use about thirty minutes of the lecture time to address these knowledge problems and the remainder to focus on critical evaluation.

To make the flipped classroom a success Vedder has also changed the learning outcomes. The course manual now states that ‘this course unit will help you to design a European legal argument that will win your case.’ The cognitive level has also been raised significantly. ‘We have gone from testing 80% knowledge and application skills and 20% critical evaluation to 40% knowledge, 20% application and 40% critical evaluation.’

In previous years, the course unit had a reputation among students as ‘the course from hell’ because it was perceived as difficult to pass. But Vedder is optimistic

that his flipped classroom version will work. He believes that intrinsic motivation on the part of students and managing expectations on the part of the lecturer is all that is required.

His Faculty has doubts about the increased cognitive level, however. Vedder laughs. ‘Their formal response is: That’s great, we like innovation, it’s really good that we’re doing this. But their informal response is: But be very careful about raising the cognitive level.’

In the end, reputation or evaluation is unimportant to him. ‘If it’s a good evaluation you’re after, then keep on being predictable and doing what you’ve done for the past five years.’ Vedder has a final tip for lecturers like himself who want to try something new: ‘Think twice before doing this because it’s very time-consuming. And make sure that you have the backing of the Faculty because your course unit will be different from all the others in the Faculty. That could trigger an unfavourable response from students.’ Once the course unit is up and running, Vedder will see what his students make of it.



DR IWAN VAN DER HORST

‘If you teach students of Medicine and every flipped class is the same, the students will get bored. And then they’ll also learn how to behave like flipped classroom students.’

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STUDENT

As a second-year student of Medicine, Bram de Vries experienced first-hand the introduction of the flipped classroom to medical students as part of the Faculty’s new G2020 curriculum. He is part of the Intramural Care learning community and one of Van der Horst’s students.

De Vries liked the new method from the outset, but was also outspoken about the things that didn’t go well. He remembers how he and his classmates didn’t know what to do at first. Being given complete freedom in what to do left many students feeling adrift. ‘I think there needs to be some balance. Of course, you should flip the classroom and ask students to prepare and to give answers,

but the lecturer also needs to explain some things. It should be a combination of the two.’ In general, he is positive about the flipped classroom and thinks that the interaction with the lecturer and his classmates helps him to concentrate. ‘You just have to try it. The worst that can happen is that it won’t work. But do it because you want to and not because G2020 tells you to.’

Dr Iwan van der Horst

Faculty of Medical Sciences

Since Iwan van der Horst first learned that he and his colleagues at the Faculty of Medical Sciences were no longer expected to give normal lectures, he has become a big fan of the flipped classroom. Although Van der Horst, who also coordinates the Department of Critical Care at the UMCG, was unfamiliar with the new method, he has now found the right balance with flipping the classroom, while not overwhelming his students by giving them complete freedom to study by themselves.

When the Faculty's new G2020 curriculum was introduced, Van der Horst presented his students with tasks they had to do at home and subsequently discuss in class. Things didn't always go smoothly at first because Van der Horst still had to improve his teaching skills as a 'flipper' and because students didn't do as much preparation as they were supposed to.

Over time, however, both Van der Horst and his students adapted to the new teaching method. 'For me, flipping the classroom is successful precisely because it isn't totally flipped in the sense that students are now giving the lecture and I am simply telling them whether they're right or wrong. The flipped part is that we are creating some kind of educational product within the lecture.'

For example, Van der Horst used one of his classes to write an abstract together. Students had to write an abstract at home

for one of his articles and bring it to class. He recalls: 'During the lecture, I asked "Okay, what's your first line?" and then asked for another one. We changed it and by the end of the lecture we had an abstract.'

Van der Horst thinks the flipped classroom works very well. 'I believe, although it is conjecture at this stage, that the students have learned more with this type of teaching.' He also likes the fact that students are no longer simply consumers. They have to invest time and effort in preparing for face-to-face meetings.

Feedback from students shows that they are positive about the flipped classroom when guided by the lecturer. For Van der Horst, therefore, the trick is not to either lecture in the old-fashioned way or flip the classroom, but to choose the amount of flipping depending on the subject and on the year the students are in. He explains that he sometimes flips part of a lecture

and if he feels it's no longer working, he rewards his students by lecturing for a time on his field of expertise.

In general, Van der Horst tries to use the flipped classroom in different ways. 'If you teach students of Medicine and every flipped class is the same, the students will get bored. And then they'll also learn how to behave like flipped classroom students. You have to keep recapturing their attention by doing something different or new.'

Van der Horst feels there could be more support from the Faculty. Although it was fine for him to adapt to the new system on his own, he hopes for more training in the future. 'If you want to change something you have to help not only the new students, but also the lecturers to fit into the new system.'

DR JENNIFER JORDAN

‘You have to make it broad enough to be interesting as well as kind of understandable. That means being very focused in terms of what to present.’

Dr Jennifer Jordan

Faculty of Economics and Business

When Jennifer Jordan, Associate Professor of Organizational Behaviour and Human Resource Management, was asked to design a MOOC (Massive Open Online Course) for the Faculty of Economics and Business, she didn't even know what a MOOC was. Countless hours later, she is positive about the idea of making education accessible for everybody, but also has some mixed feelings about it.

Asked to prepare a MOOC, Jordan's most important question was 'Why'? But she was curious and the social aspect appealed to her. 'I had never done something like this and I do think education should be accessible to all.' In addition, MOOCs are useful for Jordan's Faculty because they help to publicize and promote the research carried out in the Faculty of Economics and Business.

During the preparation phase, the biggest challenge was to find a topic on the continuum between uncertainty and complexity. Jordan explains the tensions between doing justice to the topic while also bearing in mind that most people enrolled in the course aren't specialists in the field. 'You have to make it broad enough to be interesting as well as kind of understandable. That means being very focused in terms of what to present.'

'You really have to be excited about what you're saying because if you aren't, you can't expect your students to be.'

Despite the countless hours spent finding reading material, once the MOOC was up and running many course participants criticized the assigned readings as being too challenging. Jordan hadn't expected these problems with the material and in retrospect she thinks she didn't find the best material for her students. 'You are trying to be everything to everybody and that doesn't really work.'

Having completed the first two runs of her MOOC, Jordan is ambivalent about whether she would do it again. Although she did expect the extra time investment, she thinks that showing up in a classroom and having face-to-face contact with the teacher is very important for students. But if she could design a MOOC closer to her own field of research and target it to undergraduate students of psychology she would definitely do it

again. 'I'm actually afraid to say so because I'll then be asked to do it,' she laughs.

From her own experience Jordan believes that two aspects are essential for developing a successful MOOC. First, you have to be passionate about the topic. 'That is even more important than when you are teaching in the classroom. You really have to be excited about what you're saying because if you aren't, you can't expect your students to be.' Second, visualization is crucial. Jordan stresses that you have to be as visual as possible: 'Try to tell stories, use many examples and ask students to put themselves in hypothetical situations.'

In the end, the social aspect is what makes the extra time commitment outside her regular duties worth it. Jordan knows that many people cannot afford the luxury of education. She therefore feels that it is vital for society that universities like MIT in Boston and the University of Groningen offer MOOCs that people from countries like Sri Lanka can follow.



DR MARIANNA BEVOVA

‘You can use the lectures for some of the course units, and the tests or articles for others. It’s like a collection of big chunks of information that you can reuse later.’

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STUDENT

As a PhD student at the European Research Institute for the Biology of Ageing (ERIBA), Niek van Wietmarschen was in a unique position to both observe and take part in the implementation of the MOOC.

Although he is of course very familiar with the subjects presented, it was the first MOOC he took part in and he enjoyed it. ‘Even as a PhD student working in the field of ageing, and I’m sure many people here agree with me, I picked up a lot of things that had kind of slipped away since I’d first learned them. So that was really good. It’s a fun thing to do actually.’ Because he was also able to look behind the scenes during the MOOC preparation phase, Van Wietmarschen has a very

simple tip for lecturers wishing to create a MOOC: ‘Have a lot of patience!’ He explains how many things take more time than expected. ‘I was looking on from the side-lines and I would probably have gone crazy halfway through. Sometimes, it’s just difficult to get your ideas across to people who aren’t in the field, to tell them how something should sound or look.’ He therefore has great respect for his colleagues who designed the entire MOOC on the Biology of Ageing.

Dr Marianna Bevova

Faculty of Medical Sciences

'I was very happy to take it on because I generally teach a lot. I'm interested in education and I think it's a great project to execute from start to finish.'

Although Marianna Bevova, researcher and lecturer at the European Institute for the Biology of Ageing, had participated in MOOCs herself, creating a MOOC about the biology of ageing was a completely new experience for her.

When Bevova started preparing the MOOC in September 2014, she didn't expect the enormous time investment needed. But neither did any of her colleagues. She laughs: 'Nobody expected that. Nobody had experience with online education. Only one of us had done it before. In the last couple of months it has been a full-time effort.'

Nonetheless, it was worth spending all those hours putting the MOOC together.

She liked having to call on all her skills and coordinating all the different people involved in the project. It was rewarding to see how the learning community developed a life of its own once the MOOC was up and running. For example, people helped each other to understand the complex processes of ageing and motivated others to complete the course.

Because the MOOC was new to Bevova and her team as a form of online learning, it was also very challenging at times. When

making videos, for example, Bevova describes how she had to figure out what second should be matched with what slide or when the presenter should be on screen. She had never written a storyboard for videos before and it wasn't always easy to communicate her ideas to the company doing the video production.

'Nobody had experience with online education. Only one of us had done it before.'

Another challenge was to prepare the twenty-minute lectures for the MOOC. 'When you do offline lectures, your lecture hour is not you talking for one hour without stopping. You also see how people react, you get feedback or you go back to things, so the material in the lecture is less dense.' During the video lecture, however, there is nobody to interact with and Bevova estimates that a twenty-minute video is comparable to at least one hour of an offline lecture.

Reflecting on the investments she has made, Bevova hopes they will pay off in the long run. She hopes that different parts of

the MOOC can be used as part of regular teaching. 'You can use the lectures for some of the course units and the tests or articles for others. It's like a collection of big chunks of information that you can reuse later.'

In general, Bevova is very enthusiastic about online education. She doesn't think it should replace offline education, but it can easily be used to support or replace specific parts of the teaching. She feels that some of the theories or concepts that have not changed for decades could be replaced by forms of online education, allowing lecturers to focus on things that need to be described or discussed in more detail.

Asked if she would prepare a MOOC again, she says it would depend on the topic and the task. 'But I wouldn't say no to doing this again.'



DR ERIN WILSON

‘We noticed a lot of public discussion about religion, how it is either bad or good and how it helps to resolve conflicts. So we wanted to challenge some of the stereotypes and also define what we actually mean when we talk about religion and conflict.’

Dr Erin Wilson

Faculty of Theology and Religious Studies

The rise of Islamic State has led to public discussion about religion and conflict, which in turn has sparked the creation of a MOOC on Religion and Conflict. Together with her colleagues Marjo Buitelaar and Kim Knibbe, Erin Wilson, Director of the Centre for Religion, Conflict and the Public Domain, wanted to create a massive open online course that would address recent cases such as Islamic State, as well as develop a profound understanding of the role religion plays in conflict situations.

Wilson recalls: 'We noticed a lot of public discussion about religion, how it is either bad or good and how it helps to resolve conflicts. So we wanted to challenge some of the stereotypes and also define what we actually mean when we talk about religion and conflict.'

Buitelaar, Knibbe, Wilson and a team of student assistants began designing the MOOC, with the aim of making the materials and assessment tasks appealing and accessible to people from different educational, cultural and political backgrounds. She remembers that one of the challenges was to estimate the time students need to properly get through all the material. For example, the final assessment for the course, a policy paper, was perceived very differently by the students who made it to

the end of the course.

'On average, people said it was too big and they didn't feel they could do it.' But others wanted to be challenged and since the MOOC also functions as a kind of pre-requisite for applying for a Master's at the Faculty of Theology and Religious Studies, the team decided to keep the big assignment at the end of the course, but to also offer an alternative assessment, a short blog post.

'I try to keep a distance from what happens online because it can be personal. It's also very rewarding, but you need a thick skin because not all the comments are constructive.'

What Wilson really likes about the MOOC is that she can reuse the prepared material, for example, as video lectures. 'I can now use this material in my own course units.' She also thinks the MOOC is a great way to share knowledge beyond the university. And naturally, her Faculty was also happy about being promoted in this way.

At a more personal level, Wilson feels that creating a MOOC and making it available for everybody makes her a little more vulnerable than giving traditional lectures. 'I try to keep a distance from what happens online because it can be personal. It's also very rewarding, but you need a thick skin because not all the comments are constructive.'

For Wilson, creating and running the MOOC with her colleagues was a great experience, one in which she both learned a lot and was able to share knowledge and ideas with other people around the world.

**TOM SPITS**

‘On the internet, you just have content. There is no educational idea behind it. But a MOOC is in fact education. It’s structured, there is a pedagogy behind it, and so students are being helped.’

STUDENT

Robbert van Veen started his job as a student assistant for MOOCs without really knowing what to expect. In retrospect, the Master’s student in Theology and Religious Studies thinks his job is a great way to develop his personal skills as well as to help lecturers.

‘It was all new experience for me, but it was a great opportunity to help out lecturers, to get to know the job and see if this is something for me as well.’ Since Van Veen started his assistant job, he has helped both with re-runs of existing MOOCs and with creating new ones. Although he was initially hired to support lecturers with the technical aspects of MOOCs, he and his colleague soon found out that such projects are very complex. So in the end, Van Veen was involved in every aspect of the MOOC on Religion and Conflict. He was very impressed by how quickly lecturers adapted to this new form of teaching. ‘Basically, they started writing from scratch because they had to redesign their entire field of work.’ He explains how ideas were jotted down everywhere. He then helped to structure these ideas by setting up flip boards. ‘I set up six separate boards for each week with Post-its on them, and that worked out pretty well because it made it easier to rearrange things.’ Van Veen really enjoys supporting educational teams with their MOOC. He also finds it a good way to work with his own educational background as a Master’s student in Theology.

Tom Spits

Centre for Information Technology

Nine months – that’s roughly the time it takes to create a MOOC. Tom Spits is the person to go to for lecturers who need support during a MOOC’s development phase. Since starting his job in September 2014 as MOOC coordinator in the Educational Support and Innovation department, Spits has been sure to involve everyone needed to successfully launch a MOOC on the FutureLearn platform.

A big part of Spits’s job involves working closely with the educational teams who create a MOOC. He explains that he is not only responsible for managing expectations, but also helps to put lecturers in touch with marketing people, course designers and legal assistants to create the best MOOC possible.

Spits’s enthusiasm is almost palpable as he talks about his job. ‘I like to sit down with the lecturers and really think through with them about how to make the MOOC work.’ He explains that they discuss ideas and that he points out which areas of the MOOC still need to be ‘moocified’.

An essential part of developing a MOOC is time investment by lecturers. Although Spits and his colleagues stress how much time is needed, many lecturers underestimate the many hours of work

involved. To make sure that a MOOC doesn’t run into time problems, Spits checks the commitment of the lecturers. ‘We ask them if they have the time and when their deadlines are so that we can anticipate them.’

As well as time management, being specific about MOOC requirements was another aspect that Spits learned during the creation process. For example, he explains that an article used for a MOOC actually means a piece of text and not a twenty-page scientific paper. ‘You have to be clear about these things.’

Especially when he started his job, he had to overcome some challenges in terms of roles and responsibilities. The complexity of the projects means that a huge team is involved and Spits recalls that they first had to find out who is responsible for the

course. Sometimes when he suggested changes he was kindly reminded that he was just an advisor. He laughs: ‘Now the roles are clear. The lead educator is responsible for the content and I’m the organizational expert.’

Asked about the difference between using the internet in general to learn new things and using a MOOC, Spits is very clear: ‘On the internet, you just have content. There is no educational idea behind it. But a MOOC is in fact education. It’s structured, there is a pedagogy behind it, and so students are being helped. You acquire skills or attitude or knowledge.’ He adds: ‘You help people really achieve that goal.’

Because a MOOC is available to thousands of people around the world, quality assurance is another of Spits’s tasks. To make sure everything runs smoothly, Spits and a team of experts spend up to five weeks testing all the small components of a MOOC. ‘We are sharing with the world, so it needs to be spot on.’ But that’s also what Spits loves about his job, helping lecturers to create a successful MOOC.

**DR HANNEKE MUTHERT**

‘They have more time to reflect on things at home and it’s not too overwhelming.’

STUDENT

For Mieke van’t Hoog, a Master’s student in Spiritual Care, the biggest advantage of participating in a small private open course (SPOC) about life, suffering and death was her own processing time.

She remembers that she appreciated being able to work with the sometimes challenging content in her own tempo. ‘It’s a tough subject, so it was good to work with the material when I was ready for it.’ Van’t Hoog found the assignments

during the SPOC very clear. However, she would like to have had more face to face contact with other course participants to talk about the topics during the independent study period.

Dr Hanneke Muthert

Faculty of Theology and Religious Studies

Life, suffering and death. These are extremely challenging topics to talk about, but are nonetheless crucial concepts in the Master's programme in Spiritual Care. That's why Hanneke Muthert, Assistant Professor in Psychology of Religion and Spiritual Care, together with her colleague Hanneke Schaap-Jonker decided to try out a Small Private Online Course (SPOC) to give their students the time to engage with these topics in the safe environment of their home.

Muthert explains that the SPOC is part of a bigger module dealing with life, suffering and death. Over a period of six weeks, Muthert's students studied psychological concepts relating to trauma, mourning and meaning. 'The idea in spiritual care is to train knowhow, but also attitudes and skills. There are theories about trauma and mourning, and how to cope with severe events, and there is also a place where spiritual care comes in.'

In each of the six weeks, students learned about one person's trauma. To share the stories, short videos were about different themes concerning trauma which structure the week.

Muthert sees two major advantages to these short videos and other practical assignments. First, students can watch the material, which can be challenging, at home. 'They have more time to reflect on it

there and it's not too overwhelming.' She also thinks that by reflecting about these particular themes they can study an object from close up. 'It means they reflect differently than if they read an article.'

Second, the short videos help to preserve the stories of the traumatized individuals.

'I was naïve to think I could produce our own videos and that would be that.'

Muthert explains that she plans to use the videos for the next five years. This will enable her to preserve the stories while at the same time not having to bother somebody with traumatic experiences each time the class is presented.

But the videos also make Muthert feel uncomfortable. 'I was naïve to think I could produce our own videos and that would be that. These people are very vulnerable and need to be protected.

But what happens with the videos when I leave? Who will take care of these private stories then?'

To prevent students from copying the videos or sharing them on the internet each student has to sign a confidentiality agreement. But Muthert also stresses that the people in the videos wanted to share their stories so that others could learn from their experiences.

For Muthert, designing the SPOC and working on the content together with a colleague was a very interesting process. 'You have to try things out, concentrate the material in small steps. It also gave us new insights.'

So far the feedback from students has been positive. Muthert explains: 'The plan is to use it for the next five years. After two years we will evaluate it and see where we go from there.'

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