



 **Inspera** assessment

How to create better exams

**What you need to know about exam
design and delivery in 2021**

Inspera whitepaper, February 2021

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Where do we go from here?

How the coronavirus pandemic accelerates the digital transformation, and how to respond to the change.

The outbreak of COVID-19 has forced a change in the way educational institutions can teach and assess their learners. Institutions around the world must adapt the way they work to support remote learning and home exams. It could be said that the coronavirus crisis is, in fact, providing the rocket fuel for the digital transformation in education.

The coping strategies that institutions have adopted to manage exams during the coronavirus pandemic are many. Cancelling and rescheduling exams, re-designing assessments and introducing alternative methods, such as online or home-based testing are some of the approaches. With the pandemic still raging it has become increasingly important to consider how to create fair and engaging exams while maintaining assessment integrity.

Two assessment scenarios in the times of COVID-19

There is much to be gained in these challenging times if students can continue their education despite the lockdown of on-site training. According to UNESCO, [the interruption of exams](#) affects both the individual student and holds a broader socio-economic impact as the students' way to the job market may be delayed.

Even though we are all balancing different concerns and managing as best we can, there are two main ways to prevent academic dishonesty in e-assessment:

- 1 Redesigning courses and assessment
- 2 Adding increased security layers e.g. by implementing remote proctoring

Apart from the scenarios above, another important aspect to consider is educating students on academic integrity¹. While all three areas should be part of the solution to reduce cheating, the implementation of sophisticated technologies is playing an increasing role in helping to detect and deter academic dishonesty.

In this white paper, we will take a closer look at the two exams scenarios and discuss the benefits and challenges of redesigning exams and online proctoring respectively. We have asked institutions how they have changed the way they design and deliver exams, and outlined the short- and long-term benefits of digital authoring.

We hope you're as excited to explore the topic as we are!

¹ Carroll, J. (2013). *A handbook for deterring plagiarism in higher education* (2nd ed.). Oxford: Oxford Centre for Staff and Learning Development.



To proctor or to redesign

It's time to rethink your assessment practices. Let's take a closer look at two different approaches to home exams.

How do we design better exams? The pandemic has forced us to rethink our assessment practices, including exam design. With both teaching and assessment rapidly moving online it has been proven to be of great importance to be able to complete exams remotely.

In the experience of our partners - universities, schools, governments and awarding bodies around the world - there are two main approaches to ensure the integrity of home exams. Faced with varying degrees of lockdown and considerable uncertainty about exam delivery, the educational institutions started to either redesign their assessments or to add enhanced security layers to online exams.

Both approaches are effective, but in different ways and with different outcomes. In either case, the pandemic is a chance to rethink how assessment can and should be implemented in the future in order to improve the exam experience for both students and teachers.

Let's start off with an overview of some of the benefits and challenges of the two approaches:

Proctor or Redesign?



Redesigning exams

BENEFITS

A more authentic assessment experience with students demonstrating their understanding rather than memorising facts.

A chance to rethink the curriculum design and learning outcomes.

Mirror the skills, tasks and ways of problem solving that students are required to master in their life outside school.

Focus on educational effectiveness rather than exam efficiency.

Student experience is easier to manage without the need to activate additional proctoring features on the exam day, or require consent for recording.

CHALLENGES

Can be difficult to check if students use outside assistance.

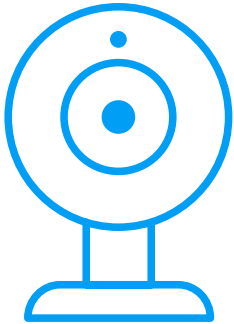
Some teachers may require additional training to master how to make the most out of digital assessment question types.

Some students may need training materials for mock exams in the assessment platform, to feel fully comfortable with technology.

It may take longer for the teachers to meaningfully redesign assessment, compared to digitising existing paper-based questions.

Students may not perceive exams as high-stakes if they are not being strictly invigilated.

Proctor or Redesign?



Online proctoring

BENEFITS

Useful for courses that require higher level proctoring, due to the nature of the certain professional qualifications.

Make sure you assess the right students with AI facial-recognition or other identity verifications.

Rich evidence material with both webcam (video and audio) and screen recording.

Get notified of any suspicious behaviour and intervene as required.

Students may receive live support on the exam day in the communication with the invigilator, all inside one platform.

CHALLENGES

The human resources needed for online invigilation.

The costs connected with advanced proctoring software.

Potential ethical and privacy issues.

Notifications review, despite being enriched by AI-generated insights and flags, is conducted by the invigilators, and as such, is subject to human error.

Invigilators and administrative staff may need additional training to manage the exam day, compared to non-proctored digital exams or paper-based exams.



Let learners apply their knowledge and skills to real-world situations

Home exams are more than just proctored exams. The transition to virtual classrooms and online examinations is a chance to reevaluate the established processes and find new ways to evaluate student knowledge.

When redesigning online assessments, educational institutions can ensure assessment integrity with:



Open-book exams
with time constraints



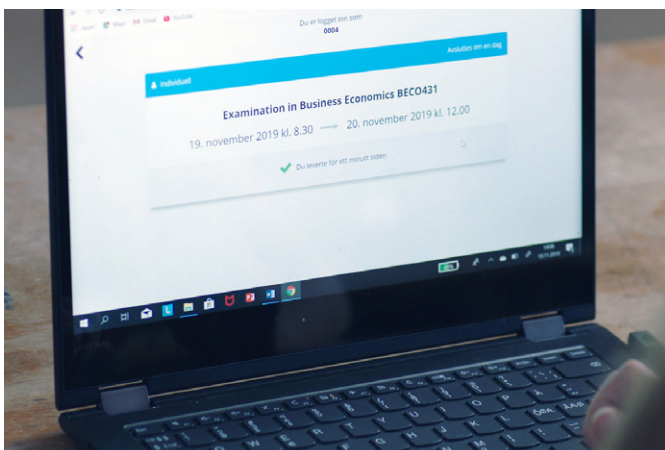
Closed-book exams
with unique test papers per student and time constraints

The strongest argument for redesigning exams could be that you offer your students a more authentic assessment experience. [Authentic assessment](#) is a set of techniques and methods for assessing the academic achievements of a student, which includes activities requiring the application of knowledge and skills to real-world situations. Higher education institutions must aspire to bridge the gap between the use of IT on campus and at work, and online assessments are an important step in that direction.

Online learning and online assessment go hand in hand since both of the practices play important roles in growing areas such as adaptive learning, analytics and personalised education. In short, authentic learning and assessment mirror the skills, tasks and ways of problem solving that learners are required to master in their life outside school.

Technology is pervasive in modern-day society and digital competences are required to be an active citizen. According to [PwC](#), the discrepancy between the skills people have and those needed for jobs in the digital world is one of the most critical problems of our time. Upskilling, which means to bridge the digital divide, is a way of tackling this issue. Digital assessment is part of the digital offers which modern institutions should provide for their learners, and thereby prepare them for a professional life that will inevitably be digital.

Apart from the positive pedagogical impact it also makes it more difficult for students to cheat, when they have to apply what they have learned in different circumstances, rather than relying on memorising facts.



The University of Bergen:

Transforming assessment and redesigning exams

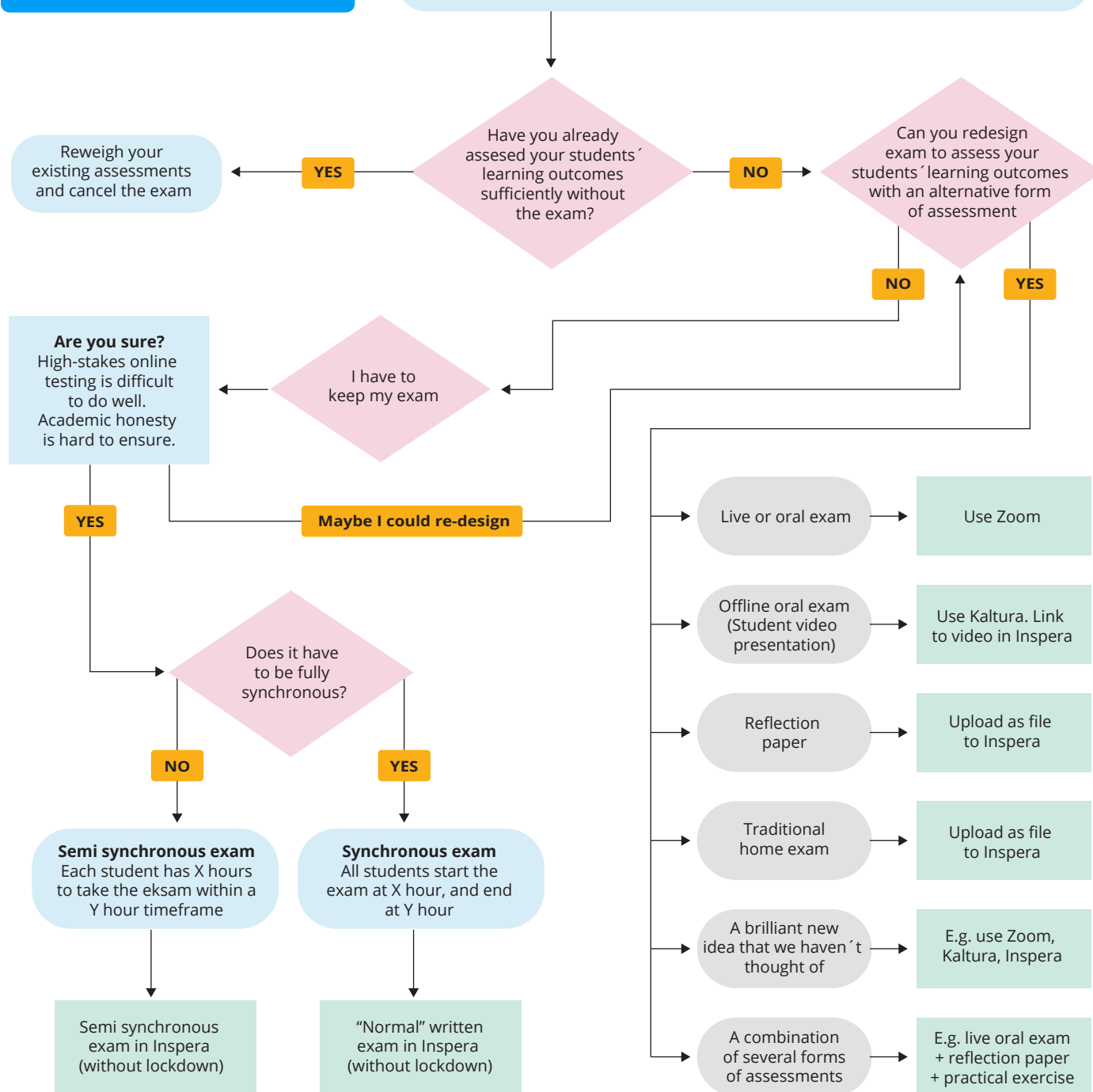
The University of Bergen has been doing exams online in Inspira since 2015. Being an early adopter of online assessment may have given the University an advantage when reacting to the pandemic. Around 19.000 students are enrolled at the University of Bergen, and they are doing about 60.000 high-stakes exams annually. The adoption of online assessment is at 100% across subject areas matters and degrees.

During the pandemic the University of Bergen designed a flowchart that helps the academic staff to navigate the online assessment landscape. The University's approach to redesigning exams went very well, and they will continue to conduct digital exams without applying online proctoring.



CUSTOMER STORY

So, you need to put your exam online



Remember that any change of assessment form and grading scheme must be done in collaboration with the exam-/student administrator at your Department/Faculty.

This is to ensure legal procedure is followed and the changes can be practically implemented.



UNIVERSITY OF BERGEN

Online exam flowchart adapted by Magnus Svendsen Nerheim and Robert Gray, Copyright 200 UiB Learning Lab, University of Bergen, is made available under the terms of the Creative Commons Attribution-NonCommercial-Share Alike 4.0 International License, <http://creativecommons.org/licenses/by-nc-sa/4.0>. Adapted from Centre for Innovation in Teaching and learning, Memorial University (CA) and Gavan Watson. Originally adapted from Brock University's Centre for Pedagogical Innovation (CA).





When accreditation calls for online proctoring

There is much to be gained in these challenging times if students can continue their education despite the lock-down of onsite training - also when students have to meet certain professional standards. Remote proctoring and increased security layers can be useful for qualifications that are granted by professional bodies. With the right security measures in place, remote exams provide an alternative to campus-based or exam centre assessments.

Several institutions have turned to online proctoring due to time restraints and limited possibilities to apply bigger changes to the exam format here and now. Online proctoring has proven to be an opportunity to ensure educational continuity during lockdown.

Inspira offers a remote proctoring solution called [Inspira Smarter Proctoring](#). It includes advanced monitoring of test-takers via webcam and screen-sharing technology - either fully automated, human proctored, or combined. Inspira Smarter Proctoring works as an add-on and is for institutions who require online proctoring on a high level. You can adjust the remote proctoring capabilities, thereby balancing privacy concerns and exam integrity. The fully automated AI solution can be switched on and off, and live remote proctoring can be added via an integration. The monitoring works despite a temporary loss of internet connectivity.

Features to keep your proctored online exams safe:



Flexible exam settings

Modular approach to allow flexible exam settings on test-level, e.g. switching on/off AI features or screen recording when needed.



Identity verification

Simplify identity checks with AI facial-recognition.



Advanced monitoring

Monitor test-takers live with advanced analytics, get notified of any suspicious behaviour and intervene as required.



Test session recording

Review end-to-end video recording of each test-taker's webcam (video & audio) and screen, or navigate directly to flagged suspicious activities.



Network resilience

Continuous monitoring despite the temporary loss of internet connectivity.



Live remote proctoring

One-click configuration to add live remote proctoring via Zoom integration (scheduled to be released in spring 2021).

BPP University:

“ Inspera’s offline capabilities are one of the distinguishing factors that really improve our digital assessment stability for students. ”

BPP University in London runs a number of programmes that are accredited by professional bodies. They insist that certain modules are proctored and were unwilling to make exceptions during COVID-19. The University therefore either had to remote proctor or cancel assessments. The latter was unrealistic given that these are professional qualifications and a candidate would be unable to take up an offer of employment without passing their exams. During the summer of 2020, BPP University therefore trialled Inspera’s solution for remote exams with up to a 1000 students per sitting. The satisfaction of different stakeholders was good with a general acceptance that the University has been a very early adopter.

Learn more about how BPP provides students with flexible, fair and secure opportunities to test their knowledge and skills in the time of turmoil. Watch the webinar [‘Exam day: Before and After the Pandemic’](#) with Jeremy Bodey, Director of Strategy, Innovation and Technology, BPP University.



SURVEY RESULTS:

Challenges and benefits of online exams

In February 2021 - one year into the coronavirus pandemic - Inspera's Customer Success team sent out a survey to institutions using Inspera Assessment.

2020 presented a paradigm shift in teaching and education, and we all learned a lot in trying circumstances. The pandemic showed us the importance of effective online platforms as a means to rapidly change the way we work and learn. While most of us surely miss the “old way of doing things”, the last year also calls for reflection and renewal.

More than 570 customers responded to the survey, and they gave us valuable insights into the way they have handled the coronavirus crisis.

Most institutions have chosen a mix of exam formats and delivery modes depending on the nature of the specific courses and assessment types. Remotely proctored home exams (both digital and on paper) and redesigned open-book digital home exams have been the two most common responses.

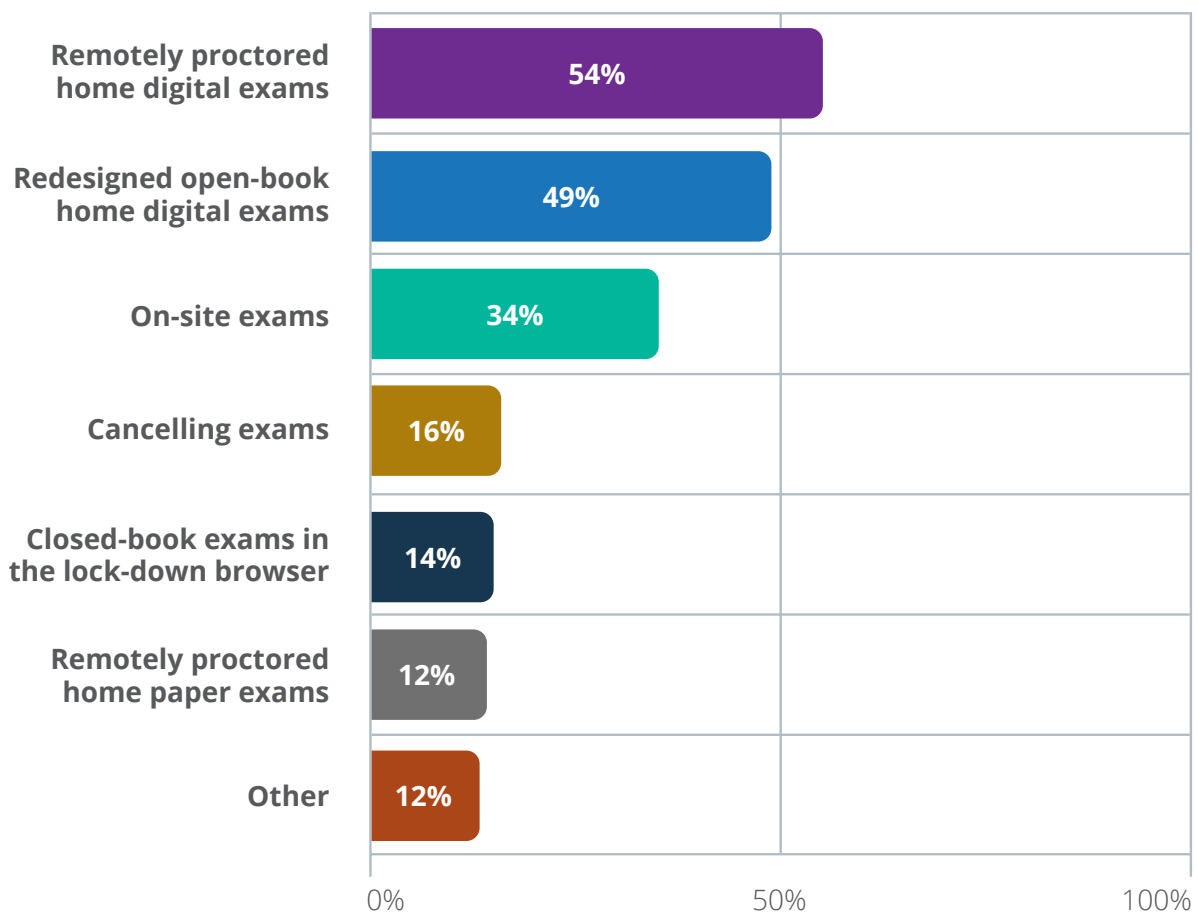
Onsite exams have also been carried out in compliance with the governments' healthcare guidelines at the time.

Survey results:

QUESTION

How has your institution responded to the pandemic when it comes to exams?

(Multiple alternatives allowed).



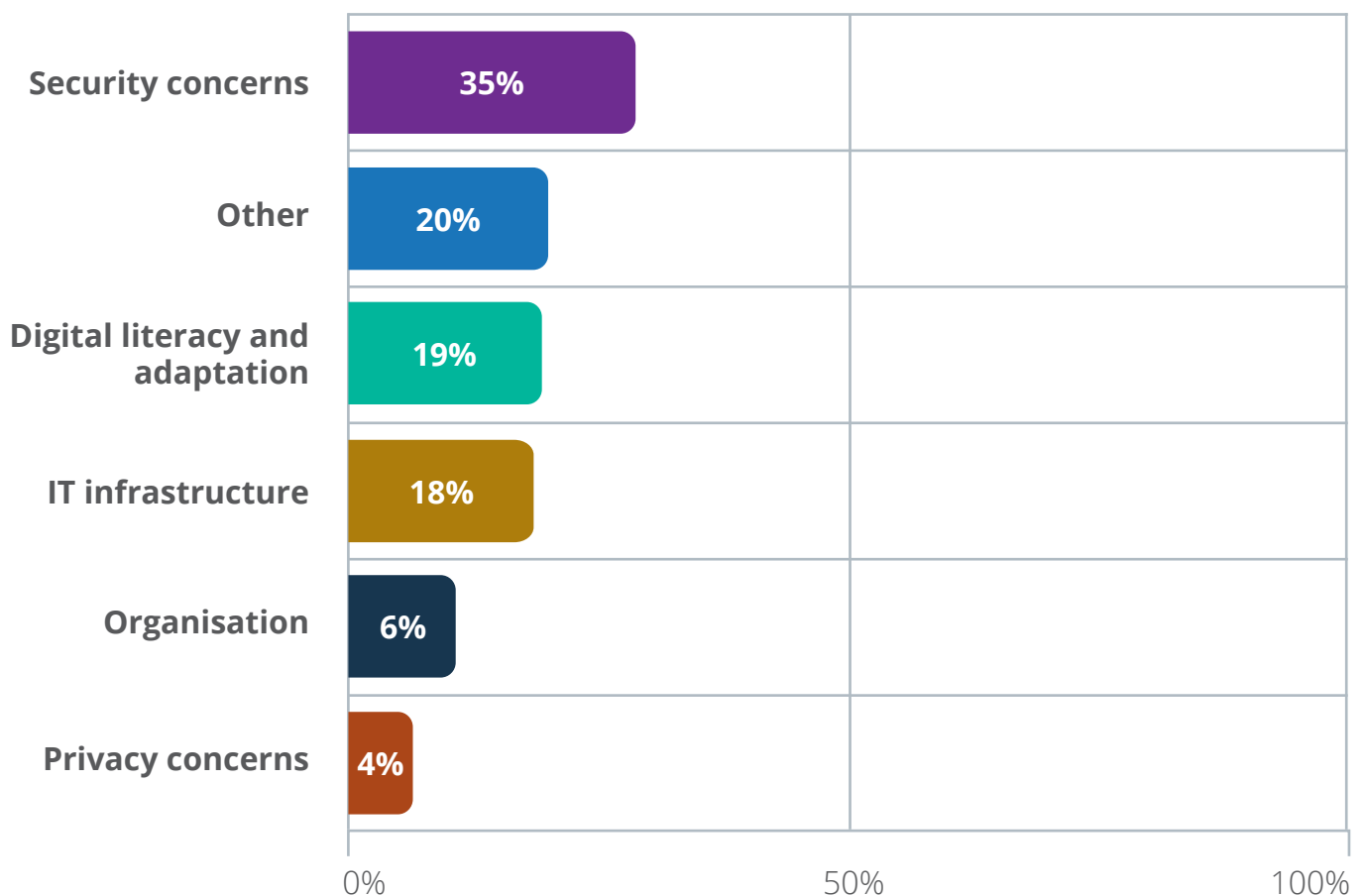
When asked about the challenges of digital exams 35 percent responded that they had concerns about security. It's only natural that your stakeholders might have reservations about the security of online assessment. Is it really safe? The short answer is yes. With the right security measures in place, online assessment is safe, and even offers a range of built-in security opportunities that traditional means of assessment do not. Read more in the blog article [‘Is online assessment secure?’](#).

Survey results:

Other concerns included setting up the IT infrastructure and the digital literacy of students and staff. Implementing digital assessment is essentially about people, not technology, and the implementation should be seen as a business-critical change management process. Learn more about how to engage your stakeholders and motivate them through change in the blog article [‘Digital assessment and change management: It’s all about people’](#).

QUESTION

*What is the biggest **challenge** of digital exams?*

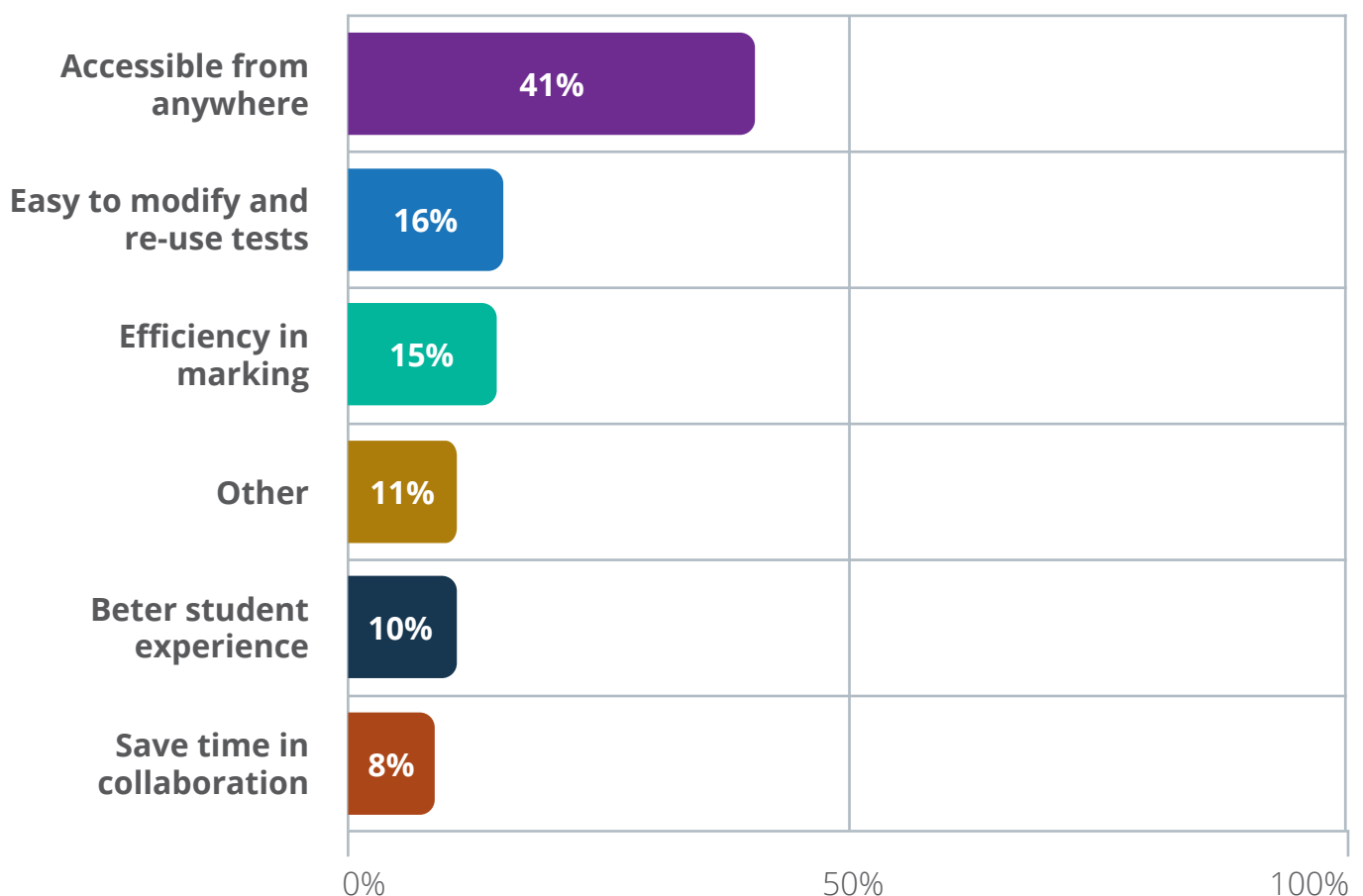


Survey results:

One of the really strong assets of digital assessment is the fact that exams and tests are accessible from anywhere. 40 percent of those surveyed found accessibility to be the biggest benefit of digital exams. Efficiency in marking and the many opportunities to reuse questions and modify existing tests were also highlighted as important benefits. The digitalisation of assessments leads to transformation and new opportunities for every student and staff member involved in the exam process. Explore the different user roles and how the transition to e-assessment affects them in the section [‘Why online assessment’](#).

QUESTION

*What is the biggest **benefit** of digital exams?*



What do the end users think of digital assessment?

Read some of the respondents' answers below.

BENEFITS

*"No paper to transport around."
"Students don't need to write by hand."
"Easier to read the students' answers."
"Everything in one place."
"Harder for the students to cheat."
"Faster grading."
"Reducing paper consumption."
"Easier administration."
"No exam papers or questions are lost."
"The lockdown browser secures the exam environment."*



CHALLENGES

*"Collaboration between students."
"Drawings."
"Asking questions in a good way."
"Fear of change; technophobia."
"Familiarising students with digital assessment."
"Inadequate student IT equipment."
"Preventing plagiarism and cheating."
"Ensuring student identification."
"Distractions and stress."
"Getting the teachers to take advantage of the new opportunities."*



Necessity is the mother of invention

How have other institutions changed the way they design and deliver exams?

How do we provide students with flexible, fair and secure opportunities to test their knowledge and skills in the time of turmoil? This has been a question that academics, administrators, and deans around the world have asked themselves many times during the last year. In the fall of 2020 we invited experts from the field to share their experiences with on-screen exam delivery. Read some of their responses below.

The experts:



Damion Young

Learning Technologist at the University of Oxford,
United Kingdom



Magnus Widqvist

Administrator at Uppsala University,
Sweden



Aleksander Lorentzen

Senior Advisor at the Department for Educational Services,
University of Oslo, Norway

Although a very good thing to rethink the questions you use, why did moving to digital exams require/lead to this change?

Damion Young: As well as the possibility of students cheating in the exam itself, another concern with remote exams is the exposure of the item bank in situations where we have less control over students recording questions. We have had to remove all questions reused from a national medical assessment bank, which has meant some fairly significant rewrites in certain cases. We are also planning to decrease question reuse rates going forwards, on the assumption that our banks are likely to have been compromised. That said, there are orchestrated attempts to reconstruct face-to-face assessments, where students are asked to remember a certain number of questions each.

How has moving tests online affected the test construct and specifications for you? And if test constructs are impacted has that had a pedagogical impact?

Magnus Widqvist: Some test authors have been very careful in their approach and tried not to deviate from their usual modus when constructing tests. Others have embraced the wide array of tools that the digital exam offers. Either method has its pros and cons: We have (anecdotal) testimonies that struggling students are having difficulties, probably due to the stress of having to learn a whole new way of studying and taking exams. This is in no small part due to the fact that the move to digital had to be rapidly implemented due to COVID-19. The adjustment period was extremely short for us all.

What guides the teacher/lecturer in the selection of test questions? Do they use the purpose of the test, the learning outcomes?

Damion Young: In medicine, in particular, there have been increasing efforts to map questions to the syllabus to ensure good coverage. However, in some subjects, examiners are asked to write questions in groups of five questions on a single subject. This has helped discourage a scattergun, surface appraisal of students' knowledge which is a potential side effect of item banking and is something we perhaps need to think about as we move into more automated test creation.

How can online courses and assessment affect students' thinking and their learning efficiency? What role does technology play in that, and its accessibility?

Damion Young: One dream, of course, is easier delivery of the sort of adaptive learning that you would be able to do easily with a one to one tutor - matching teaching exactly to the student's needs - but mediated by some sort of question/test and a person, or even totally managed by the computer. Of course, online courses and assessment make it much easier to learn part-time around a job and, as we've seen, to carry on education during lockdown! However, generating a spirit of involvement, that makes students want to excel, is much harder - at its most extreme, look at MOOCs, where drop-out rates are so high... at least in part because of lack of human contact, whether face to face or virtual, peer-to-peer or staff-student

Does your institution support teachers pedagogically in creating good questions and items?

Aleksander Lorentzen: Yes, the University of Oslo (UiO) has a Centre for Learning, Innovation & Academic Development (LINK). LINK is the University of Oslo's Teaching and Learning Center. The Centre stimulates a diverse development of teaching and learning processes by:

- Offering university pedagogy education.
- Assisting with guidance, training and innovation in the digitization of teaching and learning.
- Having a close dialogue with the faculties and supporting the Faculty's own development work.
- Coordinating, implementing and evaluating development projects aimed at the students' learning and learning environment.
- Communicating and highlighting research on higher education, teaching and learning.
- Being a hub for discussions on quality in education, and help spread good practices and create networks for learning across the academic and organizational boundaries of UiO.
- Being a driving force and contributor in analyzes of UiO's work on quality, and in the development and realization of strategic initiatives.



Photo by Alina Shchurova on Unsplash

The University of Oslo

“ Once the users transitioned to digital examination, they would not go back to the old system. ”

Today at UiO, 80% of all examinations are conducted digitally via Inspira Assessment. Even the term ‘digital exam’ in UiO’s branding strategy has now been replaced with simply the term ‘exam’, given the high adoption rate. ‘We should not digitise for the sake of it; our overriding aim in all we do is to add value,’ says Anne-Lise Lande, section manager at UiO. Senior Adviser, Aleksander Lorentzen adds: ‘And even though our primary focus isn’t to reduce costs, digital examination leads to a definite positive reallocation of what we spend our time on.’

Learn more about how UiO have handled tests and exams during the coronavirus emergency in the webinar [‘Exam day: Before and After the Pandemic’](#).

What are benefits of digital authoring?

Making the most out of onscreen exam design.

E-assessment provides new opportunities for authors of tests in all paths of education. From new question types to reflection using learning analytics, there are several handy tools. Our own Inspira Assessment platform helps teachers and academics create assessments for their students that are more authentic than it was possible on traditional paper tests. Here are just some of the benefits of on-screen authoring for educators and test-takers alike:

SHORT-TERM BENEFITS

Students and teachers can access exams from anywhere in one place, either to create them or to take part in them.

Editing can be done even last-minute with immediate effect.

Questions can be automarked, saving valuable time in exam processing and marking.

Variety of question types allows for more authentic and meaningful assessment against learning objectives.

LONG-TERM BENEFITS

Students prefer to type rather than to write.

Teachers can re-use the content of their question banks.

Teachers can reflect on question performance using learning analytics.

Better alignment with learning and workplace conditions.

Strengthening of digital literacy of students and staff.



How to get the most out of authoring tests digitally

1 Engage students with multimedia content

From language learning to art classes, from history to science lessons – audio and video content can be a very effective and creative way to test students' understanding or illustrate a text question. Not only in online classes, such materials are also used in a variety of subjects as everyday teaching aids. Why then not make it part of the assessment as well? The increase of engagement with the content is guaranteed. Any question designed in Inspira Assessment can contain multiple music, sound, or video clips. Make sure you test it in preview mode to ensure it works as intended, and you are all set!

2 Save time later with auto-marking

When the test is designed and the questions are written, we also have to think about how it will be marked and decide on a mark scheme. One of the most appealing elements of e-assessment is the possibility to do marking more efficiently. Most teachers associate auto-marking with multiple-choice questions, but that is not all. In Inspira Assessment, there are over 30 other question types, many of which can be auto-marked, with advanced scoring options. Being aware these options exist may save you a lot of time down the line, whilst not compromising the quality of the assessment method.

3 Easier collaboration with colleagues

When working within the same department, class, or with the same age-group, there are many benefits of collaboration in authoring tests. Digital question sets can be easily shared, in order to get feedback or allowing the questions to be reused, used as a template or inspiration by collaborators. Working as a team towards the common goal, tasks can be delegated and workload distributed, and all in one place. No more endless emails, attachments, links, complex folder structures and USB sticks!

4 Be more creative with the variety of question types

The variety of question types on offer may inspire you to experiment with your tests if your curriculum allows it. Whilst on paper you may test for only written input, here you could create interactive puzzles with questions such as drag-and-drop, matching/pairing, or hotspot. Or, if you teach a STEM subject, you could get them programming in the test environment, or allow them to draw diagrams and do calculations in GeoGebra, all within one test. It is all about assessment that is testing not only a wider range of skills, but also bridging the gap between the classroom and the real-life conditions.

5 Reflect on your performance using learning analytics

Authoring digital tests over time, you and your colleagues will accumulate a question bank that can be used to generate learning analytics. These analytics can provide valuable information on your questions' performance. Next time you are designing a test, you may use the insights from that reflection to create even better and smarter questions. Our R&D team is working hard on making these authoring innovations, and many more to come.

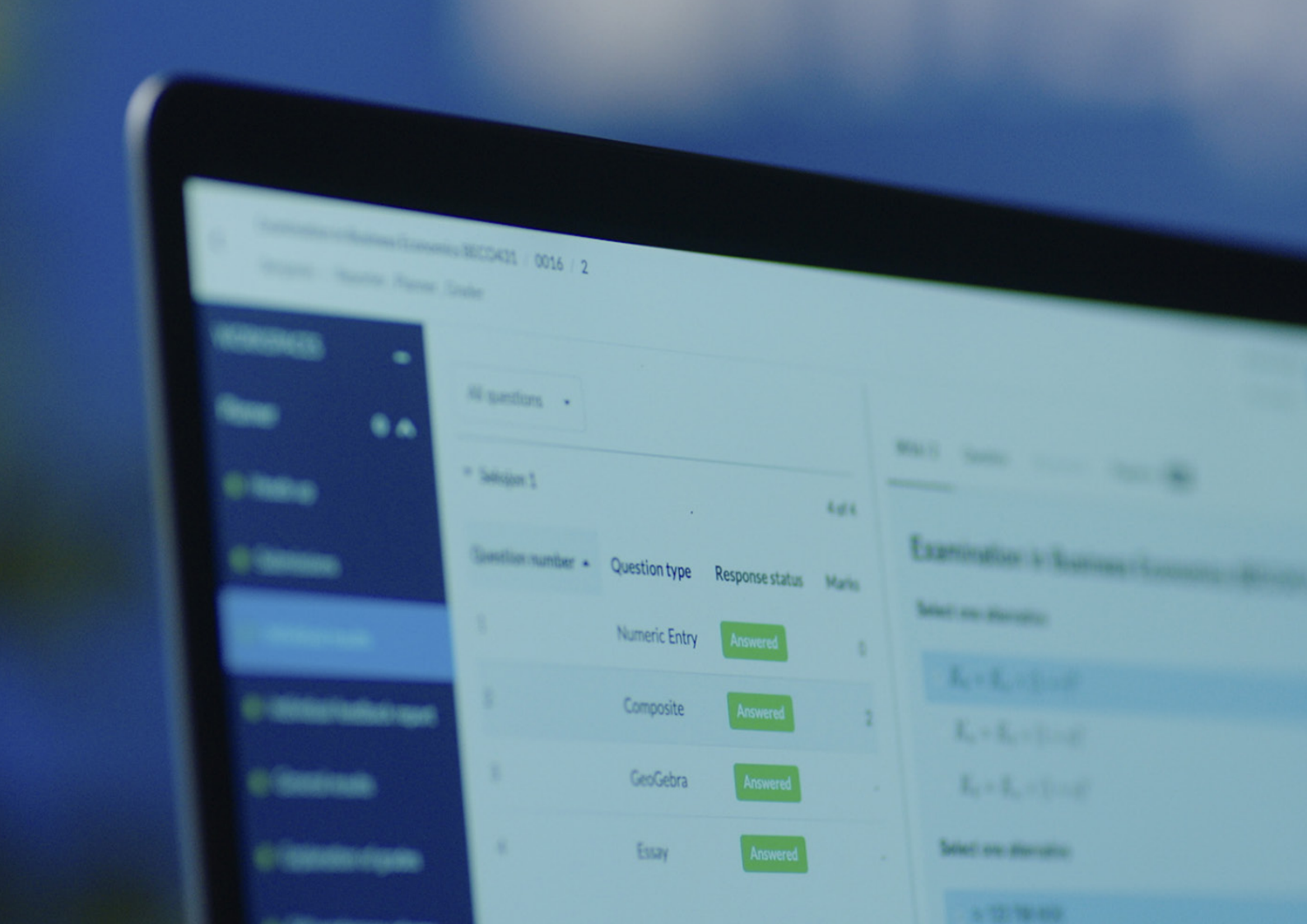
Kozminski University Business School

“Inspera Assessment system has greatly improved our examination workflow.”

Dagmara Plata-Alf is Professor and Head of Digital Marketing MA Programme at Kozminski University Business School in Warsaw, Poland. The collaboration between Kozminski and Inspera Assessment started in September 2017. Here is what Dagmara said were her favourite benefits of digital authoring:

- **Digitisation and online archiving:**
I can access assessments from any place in case of any inquiries from students
- **Easy to modify questions and reuse tests:**
The ability to add questions to configured tests and building a database for subsequent years
- **Share materials with other lecturers of the same subjects:**
It gives me the possibility for cooperation, which is especially valuable for co-delivered subjects
- **Save time:**
It shortened my grading time from 2 weeks to 3 hours

Read more about how Kozminski University Business School has benefited from digital assessment with Inspera in this [blog post](#), written for the Chartered Association of Business Schools.



What have we learned about exam delivery from the coronavirus crisis?

The changes in our digital behaviour are, at least to some extent, likely to become permanent when the economy starts to recover. The COVID-19 crisis has inevitably pushed us further into a digital world and made us reconsider existing business models and ways of working.

Despite the grave background, the rapid changes forced by the coronavirus could eventually be a springboard for a much more flexible and accessible assessment practise in the future.

Want to learn more?

If you would like to dive deeper into the topics of exam design, remote assessment or online proctoring we would recommend you to visit some of the resources below:

- The University of Bergen has created a hands-on page on how to handle [assessment and exams in times of corona](#)
- On Times Higher Education's website you can watch our webinar on [high-stakes assessment during the Covid-19 emergency](#)
- Visit EdTick for an interview with [Dr Anja Sisarica from Inspira Assessment](#)
- Download Inspira's free eBook [The Complete Roadmap to Online Assessment](#) and learn why and how to implement online assessment
- Learn more about [Inspira Smarter Proctoring](#) - our secure, online proctoring solution for advanced monitoring of test-takers
- New to e-assessment? Visit our landing page [What is online assessment](#)
- In the Inspira Help Center you can find useful [tips for planners and authors](#) to consider when creating home exams
- Watch the recorded webinar with The University of Gothenburg where Linda Jerdenius, System Administrator, shares what they have learned about [how to run effective remote digital exams](#).



ABOUT

Inspira Assessment supports your organisation's entire examination cycle; everything from planning, designing, delivering exams either remotely or onsite, giving feedback and marking assessments.

Founded in 1999 and based in Oslo, we are a dedicated team of more than 130 EdTech entrepreneurs striving to revolutionise education on global scale.

INSPERA IN NUMBERS



2.6M+

submissions
delivered in 2020



160+

countries
with end-users



91M+

sheets of
paper saved

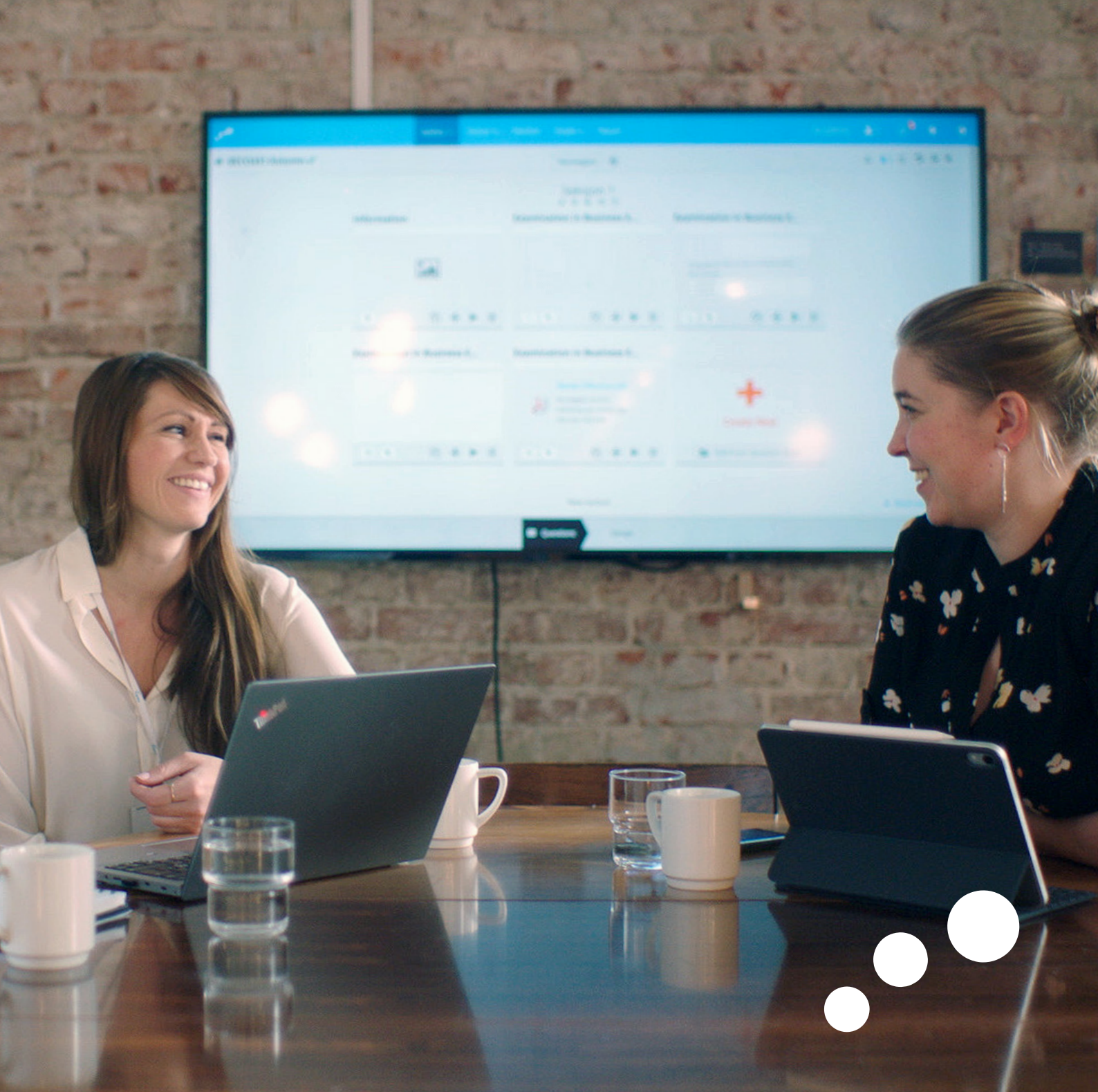


130+

EdTech enthusiasts
working together

TRUSTED BY WORLD-CLASS EDUCATION INSTITUTIONS





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