

Report on experiences and practices concerning digital teaching during the COVID-19 lockdowns at Aarhus BSS

Introduction

In 2020-2021, teaching activities and exams were planned and conducted with adjustments to fit the COVID-19 situation. These adjustments meant that teaching activities took place as a combination of streaming/partial in-person attendance and full transition to online teaching.

The COVID-19-related lockdowns of society in 2020-2021 have impacted many aspects of the structure and course of each degree programme, particularly the delivery of teaching. The digital format has been key to carrying out teaching and supervision of student projects from a distance, and the delivery of teaching has thus been adjusted to fit the external requirements facing Aarhus BSS. Aarhus BSS has succeeded in maintaining a high level of quality in its teaching and has received satisfactory teaching evaluations during the period of converted teaching activities. This can be considered an acknowledgement of the lecturers' and students' flexibility, academic commitment and targeted efforts to make the best of the situation in terms of learning outcomes. It is in our common interest for both students and lecturers to experience a high level of well-being. The survey reported in this document did not include a focus on well-being during the period with online teaching, although the comments in the survey address this subject. For this reason, there are additional important aspects to consider as part of the overall picture of the experiences with online teaching, for instance the students' social well-being and formative education as academics, as well as the well-being of the lecturers.

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In a short period of time, this extensive transition has created a foundation of experiences in relation to online teaching. In summer 2021, the faculty management team at Aarhus BSS decided to evaluate teaching and learning during the COVID-19 lockdowns in 2020-2021 in order to continue to develop engaging activities in these areas. Aarhus University, including Aarhus BSS, is a campus university, and online teaching cannot replace in-person interaction between lecturers and students, nor between the students. But based on the experiences with new platforms as well as new forms of learning and collaboration, the faculty management team wishes to continue the development of teaching activities at Aarhus BSS.

The evaluation is based on a gathering of experiences and practices related to online teaching during the lockdowns. At the same time, Aarhus BSS has made a continuous effort to implement digital elements in its teaching activities, and the related experiences are gathered as they emerge. The overall efforts in this area are anchored in the steering committee for university teaching development at Aarhus BSS, the chair of which is the vice-dean for education.

The purpose of this report is to apply the experiences gained in relation to online teaching as guidelines for organising the future development of teaching activities at Aarhus BSS. Several different dilemmas have become clear in connection with the COVID-19-related

shutdown of teaching activities, and these are dependent on the context surrounding each individual degree programme, for instance in relation to online exams.

In addition, local requests for online teaching in the future vary. The most appropriate way to deal with these are for the local boards of studies to consider these dilemmas while taking into account that AU is a campus university. In this reporting, a distinction is made between teaching activities with in-person attendance on campus (on-site), online teaching, including livestreams, and a hybrid teaching format in which some students attend in person while simultaneously, the lesson is livestreamed to students participating online.

Summary

This report is based on a gathering of experiences from the respective boards of studies at Aarhus BSS. Guided by a series of central questions, each board of studies has reported their thoughts on perspectives related to students and education. This provides some context to the lecturers' individual experiences, which have been mapped using a survey sent to all lecturers at Aarhus BSS, asking them to evaluate teaching activities during the COVID-19 lockdowns in 2020 and 2021. The survey can be summarised as follows, clarifying what we have learned about teaching, supervision of student projects, and exams in online formats during the lockdowns.

- Aarhus University is a campus university, and as a general rule, teaching is based on in-person attendance. Online teaching and digital tools for teaching are utilised when these are deemed pedagogically relevant in relation to on-site teaching. A lecturer's choice of online and on-site teaching reflects the form, content and teaching methods of different courses as well as the lecturer's assessment of the specific learning situation, including the students' well-being, learning and formative education as academics.
- Digital tools for teaching have gained ground and can be used as a supplement to conventional teaching formats in connection with in-person attendance, and select courses can be conducted by way of online teaching.
- Most lecturers find the hybrid teaching format, in which some students attend in person while the lesson simultaneously gets streamed to students participating online, less attractive.
- Lecturers find the quality of *online teaching* during lockdown to be the same or slightly lower. In particular, the quality is considered to be lower for the types of teaching activities which require interaction and dialogue.
- The quality of *supervision* in an online format is not considered to be lower. This suggests that online supervision processes are likely to become part of the norm.
- The experience of the quality of online *exams* as well as related opportunities and challenges, e.g. making the students feel comfortable in this situation, varies. There may be potential in using online exams when necessary.
- Dialogue and interaction with colleagues, the technical opportunities at AU and the lecturers' own skills at using digital tools have had a crucial impact on the ability to conduct good and successful online teaching during lockdown.
- The lecturers generally agree that they have become: better equipped to conduct online teaching, more motivated to develop own on-site teaching with the use of digital tools, and more keen and motivated to conduct online teaching in general.
- Conducting teaching online has required hard work and determination, and the individual lecturers have taken great responsibility for improving the learning situation and the students' outcome under the given circumstances.

The following paragraphs will elaborate on this general summary.

Students and the educational perspective

This part of the report is based on experiences gathered among the respective boards of studies at Aarhus BSS. In June 2021, they were asked to briefly (maximum 2 pages) describe:

- How has my degree programme/programmes handled the transition of teaching activities into new formats? Which actions did we take?
- Which elements of the converted teaching activities worked well and in what contexts? Which elements of the converted teaching activities worked less well?
- What reflections did the experiences with converted teaching activities cause in relation to how we think about EduIT and its future role?

The account of experiences in the following paragraphs are based on the input received from the boards of studies.

How has my degree programme/programmes handled the transition of teaching activities into new formats? Which actions did we take?

All boards of studies emphasise that the transition to online teaching took place at short notice in the spring semester 2020 and that the individual lecturers approached the task differently. In general, the experiences from spring 2020 to autumn 2021 converge on the point that the model combining students who attend in-person with livestreaming directed at students participating online (the hybrid format) does not work. The students assess online teaching/livestreaming for all students to be satisfactory, maybe because this was the feasible option during lockdown. It is mentioned that the students prefer teaching with in-person attendance, and the boards of studies emphasise that AU is a campus university and that teaching activities must be designed to support student learning. In addition, the boards of studies describe a series of important experiences concerning the transition of teaching activities into new formats:

1. The main focus in any future use of online teaching is student learning and well-being (including the social environment, student interaction and the learning environment), not resource allocation and/or political intentions.
2. Online teaching is not a 'one size fits all' solution. When and how online teaching is relevant depends on the progression on degree programmes as well as the academic content and learning perspectives. For instance, an online format is not suitable for teaching 'reflective practitioners'. Similarly, online teaching does not support teaching activities in which the interaction between participants lies at the heart of the learning process. Learning is not promoted by making students passive, as could e.g. happen in online teaching situations.
3. If online teaching is to become part of the lecturers' tasks and responsibilities in the future, there is a need for more technical support, more interaction and dialogue between colleagues and more systematic training in the use of technologies and platforms.
4. The quality of online teaching during lockdown is in part linked to the individual skills of each lecturer and in part to this lecturer's design of the *overall* course with a view to support student learning.

Which elements of the converted teaching activities worked well and in what contexts? Which elements of the converted teaching activities worked less well?

The following table sums up the boards of studies' general experiences regarding which converted teaching activities worked well/less well. Two experiences of a more complex nature are also mentioned below.

What worked well	What worked less well
<ul style="list-style-type: none"> • Asynchronous elements, such as short videos used as preparation • When lecturers use interactive elements as part of online teaching, including involvement of the students, exercises etc. • The opportunity to ask questions for the lecturer in the chat • Help from and interaction with colleagues, CED; including that the lecturers seek out the necessary help on their own initiative 	<ul style="list-style-type: none"> • The inability to help students during hands-on courses • The many technical challenges, including in Zoom, which obstruct teaching activities • The hybrid format combining students attending in person with a livestream for students participating online. For instance, this format often causes issues when lecturers use the blackboard or when students ask questions online. In addition, students may have classes online as well as on-site on the same day • The contact and communication with students • When students turn off their camera and seem passive. For instance, students say that online teaching can inhibit discussions, and it is harder to interrupt and ask questions along the way
What worked well and less well	
<ul style="list-style-type: none"> • Recordings of lectures in their entirety: provides students with flexibility and the option to 'rewind', which is useful in courses with a high technical difficulty level. But it can also lead to complacency among the students as they can always watch the lecture at a later time, which may result in decreasing class attendance and more passive students. This can also pose a challenge for the academic environment and its social aspects. A guide to recording lectures in their entirety is being prepared, which the individual boards of studies may take a look at. • Breakout rooms in Zoom: Work best when used in smaller classes, but students say that lecturers lack the necessary insight into Zoom functionality or fail to consider breakout room activities from a sufficiently pedagogical point of view. 	

In addition to their feedback on teaching activities during the lockdown periods, several of the boards of studies comment on how different digital tools (e.g. Menti, Padlet etc.) may be used for activating the students as part of on-site teaching in the future, with the aim to design blended courses and to support the presentation of particularly difficult topics and concepts, which the students can then access on an ongoing basis during the semester.

What reflections did the experiences with converted teaching activities cause in relation to how we think about EduIT and its future role?

There is a wish to keep part of the teaching online, provided that lecturers receive support in the form of necessary systems and equipment. Which activities take place online depend on and are determined by the lecturers based on their pedagogical and didactic considerations in combination with the general learning perspectives of the different degree programmes, including their general attitude towards in-person attendance. It could also make sense to employ online teaching if a lecturer is travelling abroad or similar. It is of crucial importance that online teaching activities focus on activating the students and promote preparation. Besides this, it is important that the students get their technical setup in order as well. In addition to the experiences included in this reporting, there are a great number of further experiences which the local boards of studies know about and utilise when they discuss future online teaching, for instance experiences related to how difficult it is to teach on Zoom if the students turn off their camera.

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The lecturers' individual experiences

The lecturers' individual experiences with online teaching during lockdown have been mapped using a survey with closed as well as open-ended questions. The questions pertain to teaching, supervision of student projects, and exams. If a lecturer has taught on multiple degree programmes during this period, the instructions were to answer based on the primary degree programme that the respondent teaches on.

Based on 429 survey responses from the 875 lecturers who have had their teaching and/or supervision of student projects evaluated during the transition period from March 2020 to June 2021, the response rate equals 49 per cent. About half of the respondents have provided comments, which will be used for discussing the survey responses.

Identical/increased time use results in identical/lower quality

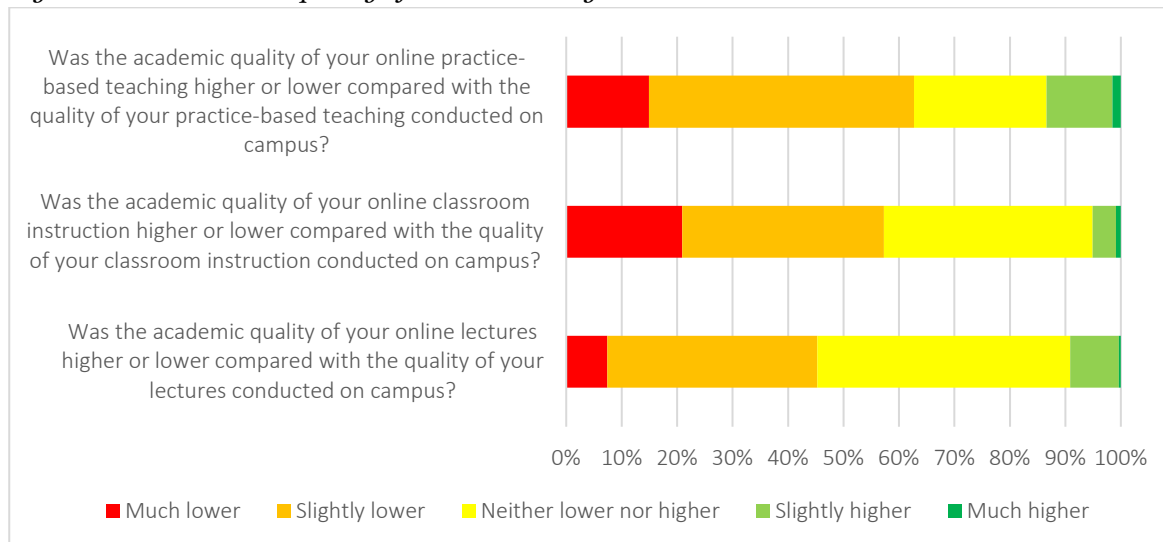
Lecturers and supervisors have not spent less time, quite the contrary. The majority of lecturers have spent between 31 and 70 per cent of their total working hours on preparing and conducting teaching activities at AU during lockdown. Approximately half of the supervisors find that their time use in relation to supervision of student projects during lockdown has been the same, and about the same percentage of supervisors have spent more time than usual.

The comments regarding time use focus on two things in particular: 1) reflections on the amount of time and resources that are required for converting teaching activities into new formats, 2) specific experiences with time spent on this transition. As an example of the first item, a respondent writes: *"Recognize that transition from on-site to on-line takes time, effort, technological knowledge, creativity, and human resources."* Another writes: *"The issue is that online teaching requires a lot of preparation that does not get compensated in local systems, which only measure how much you teach."* Another reflection is about incentives: *"There is need of an incentive structure to support it. Otherwise, we will continue as usual. The reward system supports research, not teaching."* In overall terms, the comments indicate a wish for time to develop quality online teaching as well as formal recognition of this effort in the relevant systems. Some specific experiences regarding time use are linked to the time spent re-recording videos and similar issues: *"It actually takes a lot longer to prepare for an online class that is not boring, than it takes to prepare a traditional lecture or small group class. Sometimes it took me 3 times as*

long, because I was often re-recording videos over and over again.” Another type of comment pertains to double preparation, seeing as it was difficult to predict how long lockdown would last. This experience is specifically related to the COVID-19 situation and not teaching activities in the future.

The lecturers generally find the academic quality of their online teaching to be the same (‘neither lower nor higher’) or lower, and this assessment reflects the expected levels of interaction in teaching formats when comparing online teaching with in-person attendance. Hence, most respondents who experienced the same level of quality did so in regard to lectures. In the case of classroom instruction, two groups of lecturers almost equal in size experienced either slightly lower quality (36 per cent) or the same level of quality (38 per cent). And in the case of practice-based teaching, 47 per cent of lecturers experienced a slightly lower level of quality. The number of lecturers who experienced much lower quality is few; approximately 21 per cent in the case of classroom instruction and 15 per cent in the case of practice-based teaching.

Figure 1: The academic quality of online teaching



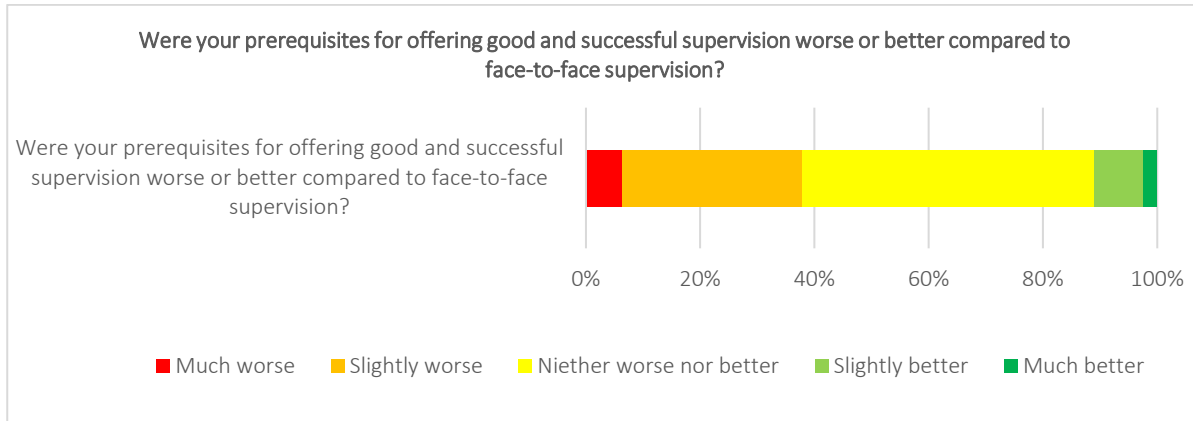
In other words, the transition went reasonably well – when taking into consideration that it happened quickly and was forced by external circumstances, but also that it is an immediately obvious choice to have online teaching supplement in-person attendance (insofar as it makes sense) and not the other way around, and that the teaching activities with the lowest levels of interaction are the most suitable ones to convert.

If one takes a look at the survey comments regarding the quality of online lectures, the lecturers focus on the students’ learning outcomes and learning environment. One respondent writes: “(...) I have no doubt that the students benefit less than if they attended in person. The fact that we were moderately successful at conducting teaching during the emergency situation constituted by COVID-19 does not in any way mean that online teaching is something we should make use of in the future!”

A number of comments express the same opinion in different ways. However, other opinions present themselves as well: “Please drop the anti-online rhetoric and shift the focus from ‘lazy students’ to ‘vulnerable or marginalised students’ – many students got a boost from finally being able to follow lectures during lockdown, and they’re now being left behind as if we’ve learned nothing.”

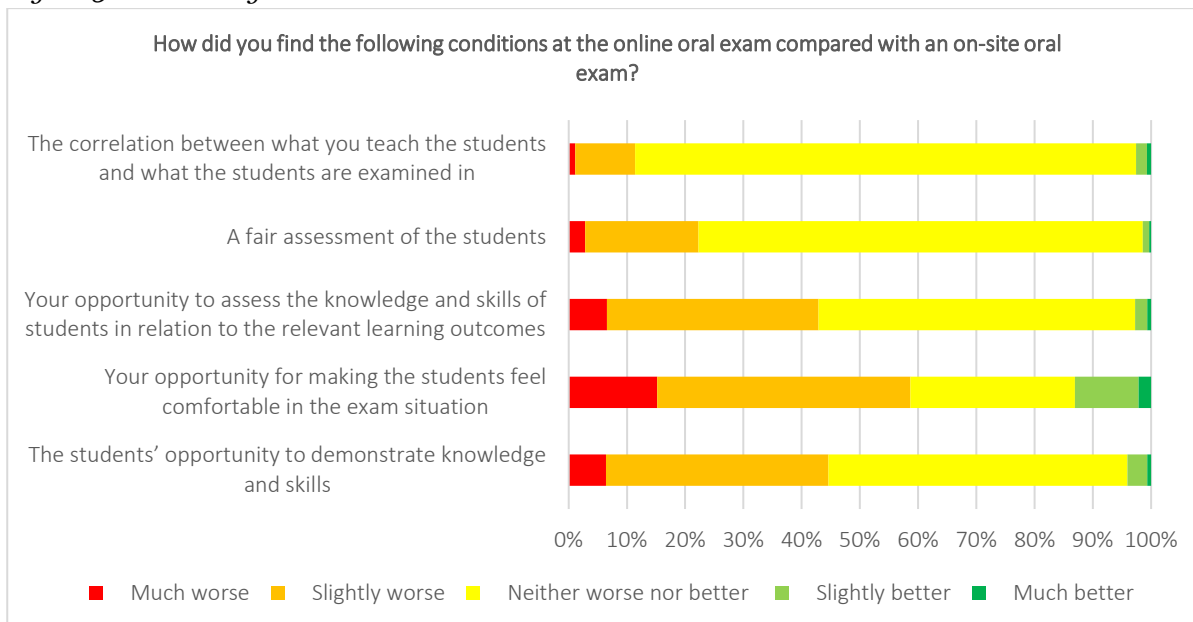
Perhaps it is possible to summarise these comments as forward-looking reflections on when and how it makes sense to conduct online teaching in the future; weak students might also get left behind because it is difficult for lecturers to follow their work online, a third respondent writes.

Figure 2: Prerequisites for online supervision



However, when asked to compare online supervision of student projects to face-to-face supervision, the lecturers found their prerequisites for offering good and successful supervision with a high degree of interaction to be better (10-11 per cent), neither worse nor better (51 per cent) or slightly worse (31 per cent) when online. The lecturers provided no further comments on this subject, except in relation to the use of different systems to identify which students are to receive supervision.

Figure 3: Conducting oral exams



When comparing on-site and online oral exams, the majority of lecturers assess the conditions for conducting oral exams to be neither worse nor better, and this is of course a reassuring response. But when the exams take place online, the lecturers find their opportunity for making the students feel comfortable in the exam situation to be slightly/much

worse, and at the same time to be slightly better, compared to their assessment of other variables in the conditions for conducting oral exams.

The comments for this part of the survey contain reflections on cheating at exams, something several lecturers report to have come across: *“The students cheated massively during the online exams, as they could sit and look/search for answers on their computers while they were being examined,”* or *“Suddenly, everybody had all the models fresh in mind and could go over them as if they had a detailed PowerPoint presentation in front of them.”* If no aids were permitted during the exams in question, this is indeed an issue. The interesting thing is that the second theme running through the comments on online exams is that they work well, that the students feel more comfortable and that the format is well-suited for students who cannot attend campus, e.g. due to exchange stays abroad. *“Please make it possible to conduct oral exams in connection with dissertations/Master’s theses online in the future as well,”* one respondent writes.

In general, it is a very small percentage of lecturers who find that teaching, supervision and exams are improved by an online format compared with in-person attendance. Many of the comments underline this point of view, emphasising that Aarhus University is a campus university and that the teaching of the future will be based on in-person attendance as well. Hence the following comment: *“(…) Also, it is my conviction that students need to go to campus for physical teaching regularly in order to be part of a vibrant student environment. Imo online teaching as a means to solve issues with lack of physical space should be avoided. Online teaching should be used for cases where there is no good alternative (...).”* The same point of view can be found in this comment: *“Online teaching reduces the students’ outcome of teaching activities. But it is possible to supplement on-site teaching with digital learning materials, e.g. very short videos for introducing a new subject [from the] syllabus, which is subsequently discussed during a lecture or workshop, or a quiz during a lecture to examine whether the participants have understood the parts of the syllabus just covered in class.”*

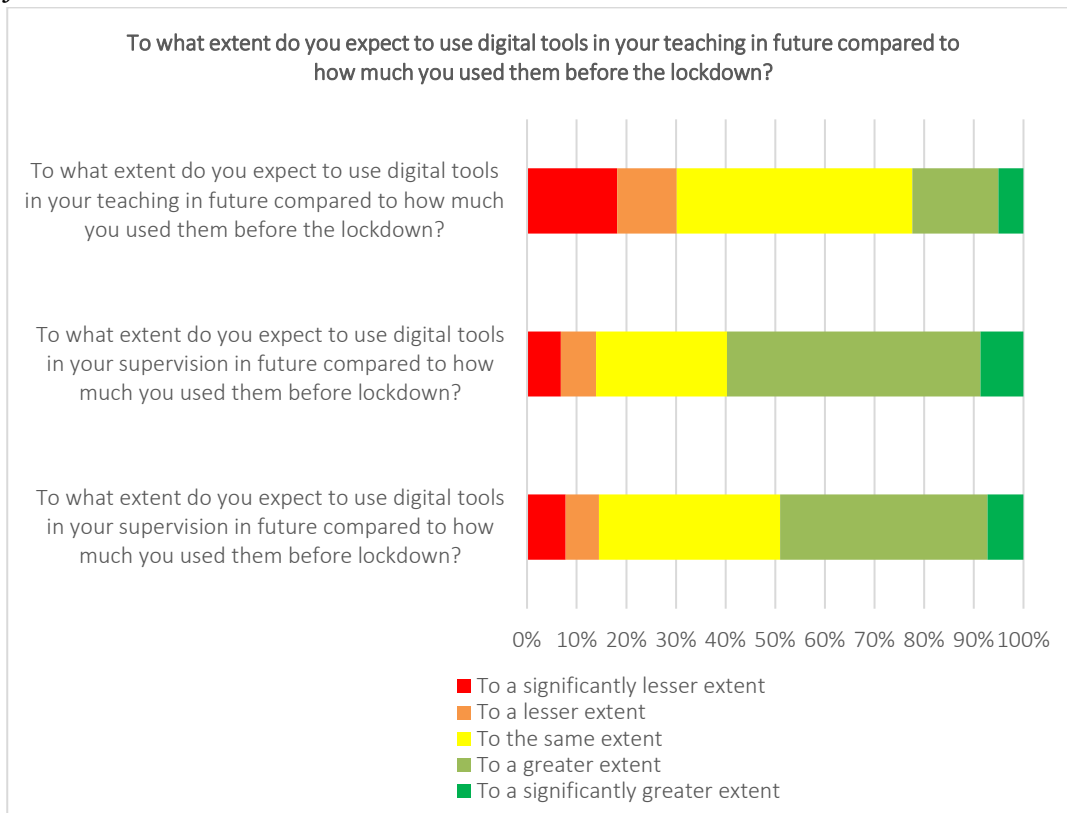
On-site participation is important, and it is possible to supplement in-person attendance with digital learning technologies as an alternative to online teaching.

For a large number of lecturers, supervisors and examiners, it has been possible to achieve the same level of quality in their teaching activities. This means that there is a basis for enriching on-site teaching with online elements, either as part of student preparation or as part of on-site teaching activities. There is an interesting concluding comment on this topic: *“Just like the faculty are trained to do online teaching, students should be offered a day course in online learning so that the faculty do not have to explain every single detail of what the students should be doing.”*

Future use of digital tools in online teaching, supervision and exams

When asked about the extent to which they expect to use digital tools in their teaching in the future, the survey clearly shows that the lecturers expect a somewhat increased use of online teaching and online supervision in the future. For online oral exams, they expect the same level of use.

Figure 4: The extent of online teaching, online supervision and online oral exams in the future



Based on a qualitative assessment of the survey comments, there is a difference in how lecturers from different departments approach online teaching, exams and supervision. This difference is linked to the academic domain and prioritised styles of learning addressed in the comments. As mentioned in the introduction, the future expectation is for lecturers to assess and employ online teaching, exams and supervision together with their academic colleagues, and to do so in ways that are sensible and adapted to suit the academic field in question.

Necessary conditions and competency development

The lecturers were asked about the positive or negative impact different conditions had on their ability to conduct good and successful online teaching during lockdown.

In figure 5 below, it is clear to see which conditions the lecturers experienced as having a positive impact on online teaching. These are the conditions related to their own skills at using digital tools and the opportunity for dialogue and interaction with colleagues. And in addition, the students' skills at using digital tools and the opportunities represented by the digital tools provided by AU.

Figure 5: Aspects which had an impact on the ability to conduct good and successful online teaching during lockdown

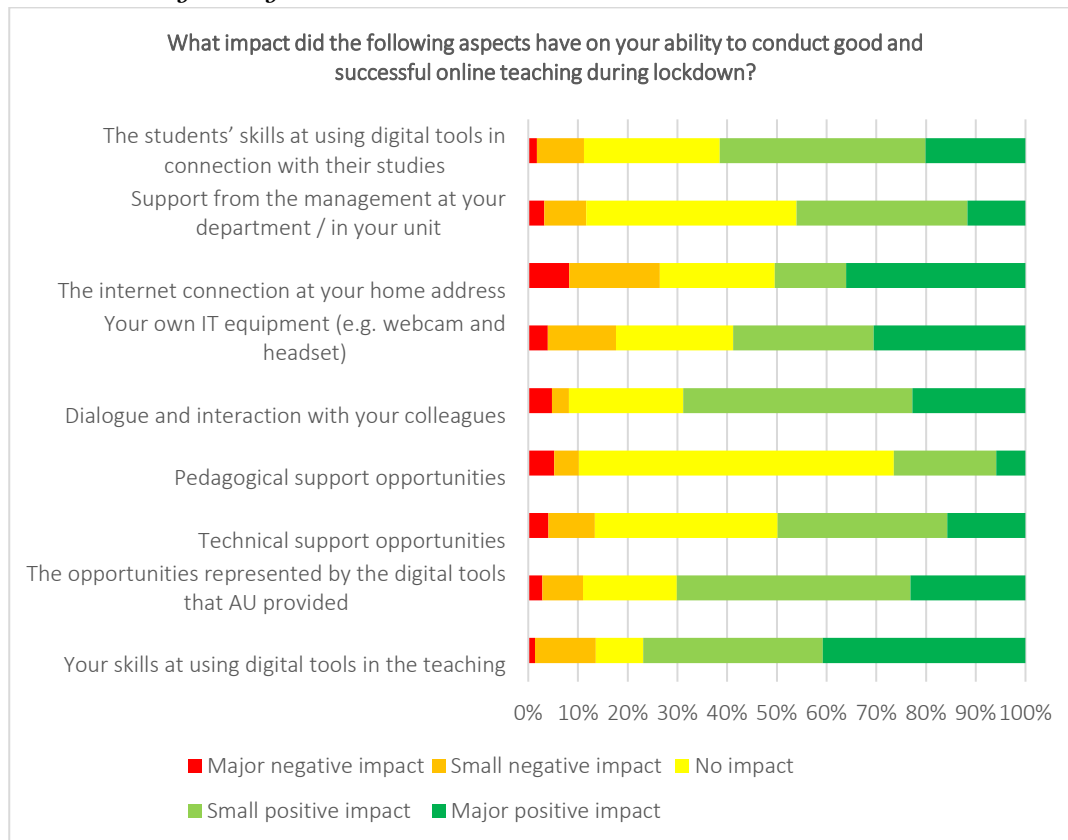


Figure 5 shows two conditions which have had less of an impact than the other aspects. These are the opportunities for pedagogical support and the support from management. Perhaps, this is a fitting representation of the lecturers' sense of a burning platform and the need to begin establishing online teaching yourself. This is further illustrated by the quotes below, in which you can sense frustration as well as a slightly panicked atmosphere. The lecturers' responses also make it evident that technical aids need to work, seeing as the internet connection, IT equipment and technical support options may have a negative impact if they do not work and a positive impact if they are indeed in order.

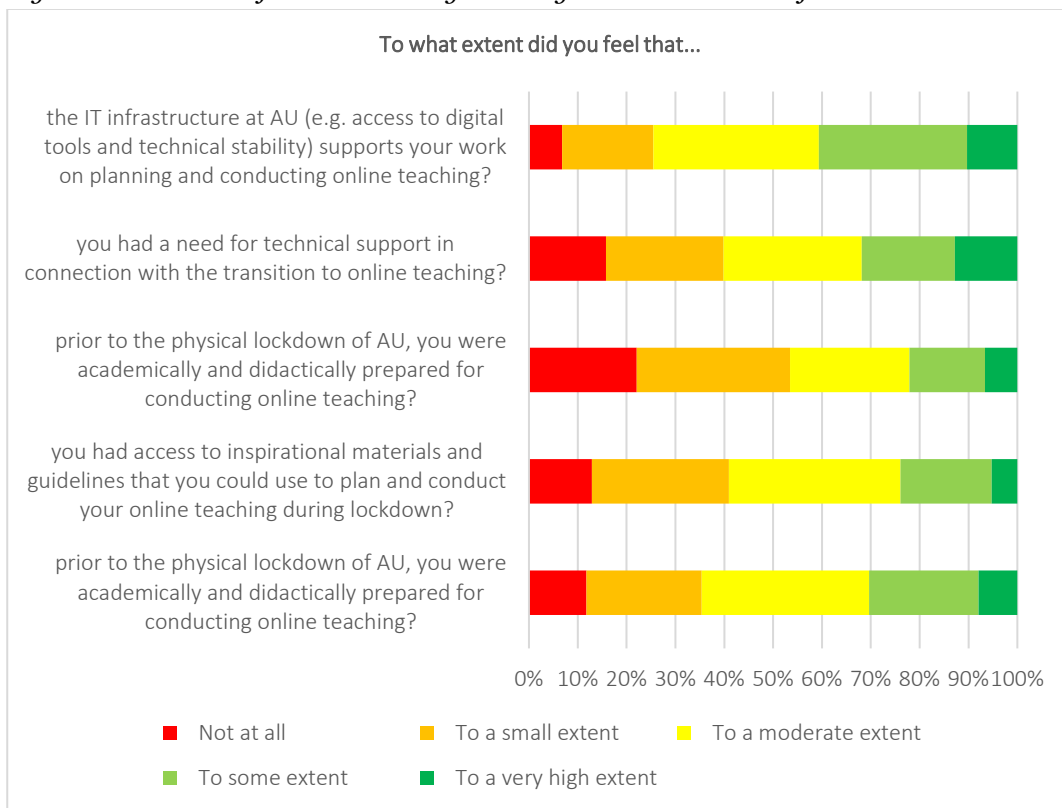
Quite a few survey comments pertain to technical support, tools and equipment. There is a demand both for customised support and more and better IT support, and at the same time, the support options at Aarhus BSS are praised. The demand for customised support might also have to do with increasing knowledge of the academic fields: *“Ensuring IT support on a greater scale – more hotlines, more supporters who are able to help AND WHO KNOW OUR DEGREE PROGRAMMES. For instance, it should not have been the lecturer’s responsibility to draw attention to the fact that zoom was limited to 300 participants (...)”* (letters capitalised as in the original quote). A respondent writes: *“There need to be more IT support for teaching-related issues – you are queued alongside other colleagues with other types of IT issues. We lecturers often experience critical issues requiring immediate attention, and in these situations, it is not a solution to wait for help for days because you are ticket no. 1,800...”* This comment appears together with requests for sufficient resources for the IT departments so that they may keep up the good work.

In part, the question of technical aids is also related to programme licenses and access to professional headsets, webcams and microphones for the lecturers.

A lecturer provides the following description: “Ensure that proper equipment is available and of decent quality. We need tools to conduct online teaching, and it is just not enough to rely on the poor quality microphone and webcam present in most laptops.” The same applies to video editing software, the use of whiteboards in addition to slides, and the handling of large Zoom video files from recordings of teaching activities, cf. the comments in the survey.

The conditions for transitioning teaching activities into new formats can be found below in figure 6. The figure shows that academically and didactically speaking, the lecturers felt poorly prepared for conducting online teaching, and for instance, it was difficult to find inspiration materials and guidelines. And finally, 40 per cent of respondents experienced their own need for technical support to be small or non-existing, and approximately 25 per cent experienced that the IT infrastructure at AU only supported online teaching to a small extent or not at all.

Figure 6: Conditions for transitioning teaching activities into new formats



Many of the comments repeat this general experience of the conditions during lockdown: “(...) General guidelines, and in particular a massive flooding of such, are less than useful. Lockdown took us all by surprise. It was very frustrating to face the problems on your own during the first few weeks. It took some time before help was in place. And a lot of problems were ‘solved’ through general announcements and guidelines. Probably necessary in the situation at hand – but nonetheless frustrating.” Besides this experience, the comments are mostly about helping each other, requests for direct and practical guidance on online teaching, and support for the educational development centre and its

work. There are also requests for knowledge sharing: *“Sharing learnings about online teaching – particularly in relation to the type of immediate interaction that injects energy into online teaching.”* It is also possible to provide more support for online teaching by establishing tracks for beginners, competent users and experts respectively. Knowledge sharing is important because it reduces what one lecturer calls: *“(…) individual donkey work, wasting huge amounts of time while individual lecturers find their own particular ways of doing things and making far too little use of the experiences of people who have already found the best solutions.”*

Perhaps there was no time for inquiring about/receiving pedagogical support and support from the management, which is why these aspects are deemed to be less important according to the numbers in figure 5 and 6?

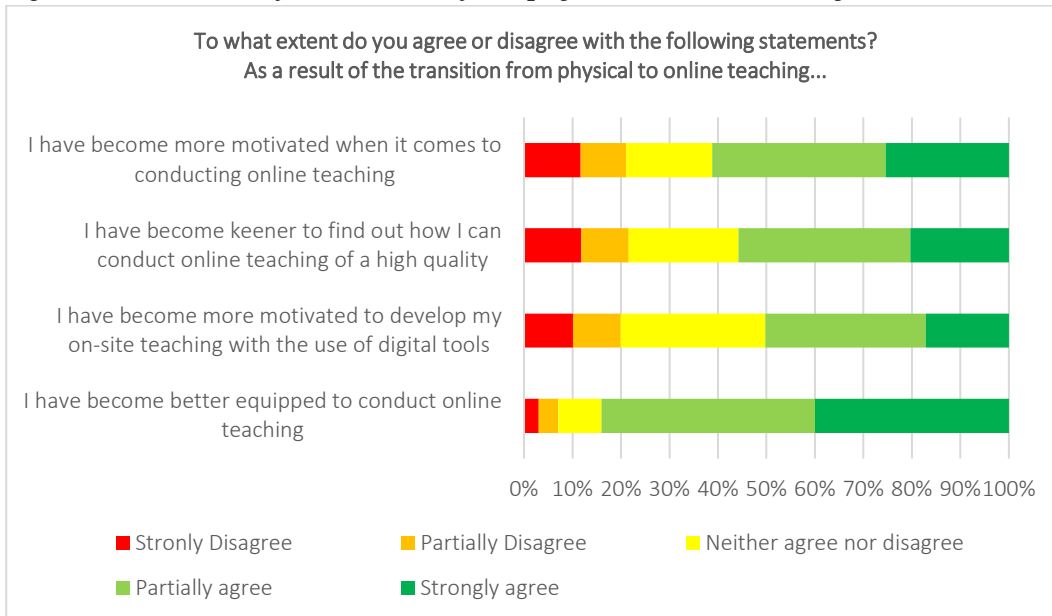
If you go through the comments in the survey, you will find an entire cluster of comments pertaining to *the organisation of online teaching*. These comments can be divided into four main groups: 1) expectations for online teaching, 2) a code of conduct for online teaching, encompassing the students as well, 3) implementation and management, and 4) reflections on which students are best suited to receive online teaching, e.g. that teaching activities for first semester students should not primarily be based on online teaching.

The group of comments concerning management and implementation primarily deal with the organisation of future online teaching, not with specific experiences from the lockdown periods. However, there are a few comments on different announcements from the management levels at Aarhus BSS. In regard to specific learnings, the following two comments might be directed at the need for organisation: *“Establish a good framework that allows lecturers to opt to conduct (part of) their teaching online. Among other things, this requires support from the management, good digital tools and additional equipment as well as pedagogical and technical support,”* and *“Cultivate the culture of online teaching that will facilitate a transition to online teaching (…).”* In addition, this should not be considered a cost-cutting exercise, but rather a strategic aim with a clear plan. In the wake of such comments, one finds observations such as *“digital teaching is not suitable for all groups and all courses,”* which supports a level-headed approach and facilitates further reflections on online teaching.

What have we learned?

Regardless of this, or perhaps rather because we have now learned a lot about the opportunities and challenges of online teaching, the responses to the last question of the survey must all in all be considered a very positive result: *“To what extent do you agree or disagree with the following statements? As a result of the transition from physical to online teaching...”* The responses strongly agree on the statement about having become better equipped to conduct online teaching. Regarding the statements about being more motivated to develop on-site teaching with the use of digital tools, having become keener to find out how to conduct online teaching of a high quality, and being more motivated to conduct online teaching in general, 50-60 per cent of respondents partially or strongly agree with these statements, which must be interpreted as a predominantly positive attitude towards online teaching.

Figure 7: Assessment of the transition from physical to online teaching



In conclusion, lecturers now feel more motivated and keen as well as better equipped to consider the necessary pedagogical and didactical facets of the organisation and structure in relation to the delivery of teaching. Lecturers make use of digital solutions to complement and supplement on-site teaching when it is didactically and pedagogically sensible in relation to increasing learning outcomes.