

Assessment when conventional examinations are not possible

Suggestions from the [University of London Centre for Distance Education](#)

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Overview

This suggests some approaches to planning and undertaking assessment when conventional examinations are not possible. It explores how close we can get to conventional examinations under current conditions, and considers some possible adaptations. It offers thoughts and suggestions on:

- Fairness and student and staff concerns under changed examination conditions
- Implications for and working with policy
- Doing without examinations altogether
- Analysing conventional examinations in changed times
- Using technology; opportunities and difficulties
- Ethical behaviour under changed examination conditions
- Revisiting and extending the idea of ‘reasonable accommodations’
- Commercial examination, invigilation / proctoring and other services.

It deals with some of the main, often inter-related, features of conventional University examinations under the current changed circumstances:

- Seen or unseen examinations
- Distribution / release and receipt of examination papers
- Open or closed book examinations when students are taking the examination alone and with Internet access
- Typed or handwritten answers, and issues raised in each case
- Timing of examinations under changed conditions
- Invigilation
- Candidate identification
- Issues in student language

Preface – “It’s not fair!”

When the forms of assessment we use this summer differ in any significant ways from the forms of assessment that students were expecting, and for which they have been preparing throughout their studies, then, no, “it’s not fair!”. “It’s not fair!” Is an ethical judgement. But it also expresses fear; fear of the unknown, fear experienced by the relatively powerless. We have to acknowledge this fear, and deal with it as best we can. (If we are honest, we probably share some of the fear ourselves – how good a job can we make of assessment this year?)

We need to have the conversation with students (and with each other) about fairness. Fairness is a very subjective, and very important, quality.

We could make a good case that an assessment method is fair if:

1. Above all, it assesses the published intended learning outcomes of the course. The validity of an assessment is a very important element of its fairness.
2. Students are assessed under the same conditions as each other, with no-one at particular advantage or disadvantage. The highly controlled conditions of an examination; whether unseen or previously-released, timed, invigilated, all-candidates-securely-identified, closed-or-open-book, no-access-to-notes-or-communications-or-the-internet; can be, in this respect, fair. Taking an examination at home presents obvious scope for unfairness. Some variations may be needed increase fairness.
3. Students with particular needs are assessed under the same or equivalent accommodations as have already been agreed for a conventional examination.
4. Students have the opportunity to take a sample (unassessed!) assessment under the new conditions, to debug processes and to reduce the shock of the unknown.

Again; it is desirable, not just to explain all this to students, but to have the 'fairness' conversation with them, to the extent that this is possible. We may or may not be able to persuade them all that assessment under these changed conditions is fair. But it will help if they see that we are taking the issue seriously, and are doing all that we can to assure fairness. Students understand that these are extraordinary times.

(There is, of course, a conversation to be had about the fairness of conventional examination assessment. But this is not the time!)

Policy

Many of the suggestions here may well go beyond current University examinations policy and practice. Many Universities are reviewing their assessment policies and regulations. Some of the ideas here may be useful in informing changed assessment policy and practice. Hopefully there will be increased flexibility, within the necessary concerns to maintain standards. Emergency regulations to enable the academic processes of assessment, marking and moderation, and the confirmation of marks and awards during this period of disruption will probably be required.

The [Office for Students](#) is giving Universities greater freedom in some specified areas. You should check for updates – the picture is subject to rapid change.

Avoiding examinations

One way to solve the problem of examinations in summer 2020 is simply to do away with them, and to base the assessment of the year or the degree on prior, already assessed, student work, both previous examinations and coursework.

To the student who is better at examinations, this approach would feel unfair. To the student who is better at coursework, this approach to assessment might feel a blessing. There are data showing that students do better in coursework than in examinations in a range of subjects (Bridges et al., 2002). If we are concerned with the comparability of marks between years, then we may need to do some scaling, based on what we know about differential performance for students in coursework and examinations on the particular programme concerned. This would be crude. It would be partly defensible.

However this paper assumes the wish to hold examinations in summer 2020.

“Conventional examinations”

We concentrate here on assessment by examination because it is the form of assessment most affected by the current restrictions. Other methods; principally forms of coursework, projects and dissertations; will also be affected, but probably to a much lesser extent.

We shall not suggest a single solution to the problem of assessment by examination when there are restrictions on transport and on mass gatherings. Rather, we shall take an analytic approach. We shall analyse, and make suggestions on, the main elements of a conventional examination, acknowledging the many interconnections between these elements.

Hopefully this analytic approach will help you to devise locally-appropriate solutions. This approach should also help you to deal with any particular distinctive features of your examinations.

In most cases, the assessment task, the examination paper, may have been agreed before the restrictions come into force. The University will understandably wish to stay as close as possible to this agreed assessment task, examination paper. However, sometimes, changes may be necessary. External examiners may need to be involved. University and professional body procedures; if necessary with any temporary local variations; should be followed, to show quality and consistency of examination results; this year, and, to the extent possible, with previous and later years.

It will be necessary to be realistic, while as far as possible holding to standards. Changes required here will require us to dig deep into our ideas about where standards lie. Procedures and practices will have to change. Fortunately, standards do not lie wholly in procedures and practices. They also lie in criterion-based academic and professional judgements.

Technology; opportunities and difficulties

An obvious core approach, of course, is to “go online”. In this paper we shall unpack this simple-sounding idea. (In some settings, University infrastructure, or indeed the internet and access to it, may be insufficiently rapid or reliable to make going online feasible.)

However, “going online” is not the only way of dealing with this. For example, students could be asked to take or post their home-completed examination scripts back to the University. (Students would be advised to scan or take, and send to the University, a readable copy of their script.) The point of this example is to suggest that a wide range of possibilities should be considered.

Going online makes heavy demands on technology.

It is the University’s responsibility to ensure that University systems can meet the technical requirements of whatever changed examination system is implemented. This is much easier to say than to do. But, since the start of the current difficulties, University IT Departments have been working hard to ensure the capacity and the reliability of IT systems. Any proposed on-line assessment should be checked with them, or checked against the service level which they commit to provide.

Your University may already tell your students what specifications of equipment and internet access students are required to have as a condition of study at the University. Meeting this condition remains the students’ responsibility. Of course, technology occasionally breaks, and power or

internet access reduces or fails. And users make mistakes. This is all more likely to happen when users are under stress, such as at examination time. That is why students should be offered the chance for a dummy or dry-run assessment under the new conditions. Help-desks should be as well staffed as possible at examination time. Overall, more time should be allowed for the online examinations, because more can go wrong than in a conventional examination. We consider this later.

Technical failures, of course, provide a new mitigating circumstance. This should be built into existing mitigating circumstances procedures. As at present, there should be opportunity for resits. It is probably best to make maximum use of existing assessment systems and protocols, with any necessary variations, rather to produce a whole new set for the current circumstances.

Examinations and ethical behaviour

Examinations are high-stakes, high-stress affairs. Results have big implications for students' futures. We may hope that we have helped students to develop ethically sound approaches to being a student, to undertaking academic work.

But we have to be realistic. Some students seek unfair advantage under existing assessment conditions. And some will seek to do so under the changed assessment conditions of this year. Parts of this paper, therefore, give attention to reducing the scope for cheating, and to increasing the likelihood that any such cheating will be detected.

Reasonable accommodations

Universities are required to make reasonable accommodations to the particular circumstances of students. That is what this paper is mostly about – accommodations that the University can make in order to ensure a fair and valid assessment under the current difficult circumstances.

However, in these difficult times, Universities may also feel it appropriate to ask students to make reasonable accommodations to the changed circumstances. Online examinations are an obvious example of this. Some further suggestions are included below. It will be important to make explicit, and to justify, these expectations that students should also make reasonable accommodations to their practice. If this is carefully explained, students will understand.

The changed examination conditions suggested here will have implications for students with particular learning and other difficulties. Students with these conditions, and staff expert in supporting them, must be consulted in the design of alternative examination systems.

Commercial examination, invigilation / proctoring and other services

The use of an exam proctoring system to address data security and the integrity of assessment, including remote proctoring and identity verification, could be considered. Service providers including but not limited to [Janison](#), [Examity](#) and [Proctorio](#) support various aspects of conducting and ensuring the integrity of remote examinations.

Conventional University examinations have some or all of these features:

Seen or unseen

The assessment task or paper may be released to students some specified time ahead of the examination, or at the start of the examination.

Online, this means that students will know ahead of time when the paper is to be released, and will commit to being online at the appropriate time to receive it.

Sending out / releasing, and receiving, the examination paper

Depending on the email system in use, automatic notification of receipt; and automatic notification that the message has been read, or at any rate opened, by the student; would be a sensible precaution for the University to take. These receipts should of course be logged.

Many VLEs allow the timed release of assignments, which could include examination papers.

To reduce the extent of emails not being received, Universities may want to send a prior email address check message to each candidate. This should minimise the “I didn’t receive the email” problem.

Students who have not received the assessment paper by the specified time should have a help address to contact. That address should be able to send out another paper immediately.

Nothing can reduce the error rate to zero. If all reasonable efforts are made; and a backup system for delayed examinations is in place, as is normally the case; then the University may feel it has made all reasonable efforts.

Examining online is a business continuity issue, and requires much the same approaches and techniques, although executed at high speed.

Open or closed book – access to sources, communications and / or the internet

If the examination was already intended to be undertaken under open-world (full internet access) conditions, then conducting the examination remotely raises few if any additional issues.

If the student is taking the examination in private, then it is probably impossible to prevent them from accessing their notes and files, the internet, each other, anyone accessible to them on social media or email. We should therefore assume; and make it explicit; that examinations are being undertaken under open-book, indeed open-world, conditions. (About the only resource from which students could confidently be excluded would be the University’s Virtual Learning Environment and the information contained therein. Unless of course the examination is administered through the VLE, and students cannot be excluded from other parts of the VLE.)

If questions intended to be answered under closed-book conditions have already been set, it will be important to read them again and ask what difference their being undertaken under open-book, open-world conditions will make. It may be necessary to modify the questions.

One good safeguard against students accessing outside sources is to ask questions, the answers to which cannot, or cannot readily, be found on the Internet or elsewhere. Such questions might relate to very specific or new examples; might require connections to be made among specified theories

and practices; or might require students to solve particular problems rather than simply report information. (This is a coronavirus-specific implementation of the much wider principle that the way to drive out plagiarism in assessment is to set un-plagiarisable questions and tasks.)

Access to the internet inevitably allows access to other students, other people. It might be wise to require students, within the examination, to declare that answers are their own work, and have not been copied or obtained from other sources or individuals. But we should be realistic. We cannot totally preclude the student's use of a co-operative expert, whether paid or not. Some technical approaches are suggested in 'response medium' below. Commercial solutions and services, considered briefly elsewhere in this paper, may be useful.

If responses are typed, then plagiarism-checking software as well as academic judgement can be applied to examination answers. (See also the following section on "response medium".)

Additionally, students who have prepared for a conventional closed-book examination may not have the skills and knowledge – or the memory – to reference correctly. If referencing was not a feature of the assessment prior to the dislocation, then referencing should not be assessed now simply because the examinations have been undertaken open book/open-world and online. To do so would be unfair.

Open-book or open-world examinations do not necessarily lead to the increase in the quality of student work that students might expect or hope for. Finding information online, and processing it into an answer to the particular question asked, takes a lot of time and skill. This is another reason for allowing students a trial examination under the new conditions. Whatever advice we give them, they need to experience the difficulties as well as the potential benefits of the open-book / open-world examination. To do well, they will still need to take the examination mostly by recalling and processing information already in their heads.

Response medium

Normally, students use handwriting in conventional examinations. Online, of course, students normally type (or, increasingly, dictate into voice recognition software) their work.

Remote or online examinations bring these two methods into conflict.

Typed

Examinations could be completed by keyboard. Students have probably done most of their work on the programme at the keyboard, so this will be a familiar medium, although their previous keyboarded work will probably not have been completed under timed, examination conditions.

We should recognise the huge difference between writing under examination conditions; which typically means producing a first draft written response with few if any edits; and the writing of an essay or report, with outlining and re-drafting and editing. This is more than a difference in technology, handwriting versus typing. It is a great difference in approach to the production of text, of academic work. At a minimum we should make this important point explicit to students. This difference is another reason for suggesting a mock exam under the new conditions, giving the opportunity to practise typing an examination answer.

Taking an examination at the keyboard provides obvious scope for pasting information from elsewhere. However, examination scripts completed at the keyboard can readily be submitted. Or

later run through, Turnitin or other plagiarism-checking software. (It would be necessary to ensure that the plagiarism-checking software has the necessary capacity.)

There are particular difficulties with typed answers in mathematical, computing and engineering subjects, and for any question where a diagram might form part of an answer. This should be a factor in the choice of response medium.

Students should be instructed to prepare their examination scripts with track changes and metadata (Properties) turned on. This will make some forms of academic misbehaviour, most obviously pasting, more readily apparent.

Using track changes and metadata, and any other such technical requirements, should be included in an assessment checklist. This could be signed/initialled by the student on their receipt of the exam paper, to certify that they have received and understood these requirements, and then again at the end, to say that the student has met them.

Students' signatures to the assessment checklist signify that the student understands that failing to meet track changes, metadata and any other requirements would have the same consequences as other examination malpractice; because failing to meet these requirements could be a cover for serious academic malpractice.

Handwritten

Remote examinations can still be completed by hand. The great majority of students have, or have access to, mobile phones/tablets, which include a camera. There is good free and cheap scanning software. Students could be asked to obtain and install this. They might also be advised to check that they are comfortable with its use, perhaps by scanning a document of a few pages and sending it to a colleague to check.

Universities should already have, or should now obtain, a representative and certified sample of each student's handwriting, as part of the identity check, to ensure that the script was written by the named student. This, like other precautions discussed here, is not 100% effective. Handwriting may change under examination conditions. All we can do is to take steps to discourage malpractice.

At the end of the examination time, students could be told to photograph or scan each (numbered) page of their script; check that the photograph or scan is legible; and upload the photograph or scan to a secure and reliable University email address or site that has the necessary capacity.

Written exam papers, even under these changed conditions, would have the advantage of similarity, and hence fairness, to a conventional examination.

Plagiarism-checking is more difficult for hand-written examination scripts. One approach would be to arrange for a proportion of handwritten scripts to be transcribed and run through plagiarism checking software. (Transcription, of course, would cost.) Students would be told that this was being done. This should act as some deterrent to plagiarism.

Where plagiarism in examination scripts is detected, whether in typed or handwritten work, the same consequences of academic malpractice should apply as to cheating in a conventional examination.

Subject to the considerations suggested above about some subjects not being suitable for typed answers, students might be offered the choice of method, handwritten or typed, if University systems and processes could cope.

Timed

Whichever means that students use to produce and submit their examination work, it would be reasonable to offer longer than the normal examination time; to allow for the unfamiliarity, the difference, of the task, as well as for scanning, uploading, and meeting any technical challenges. Any figure will be arbitrary, but an extension of the exam time by 50% or 100% over that originally planned would be a good starting point.

Some time limit is probably still appropriate, to maintain some comparability with conventional examinations.

Given the difficulties of taking an examination at home, where students may also have caring responsibilities and other distractions, a much longer time window, perhaps 12 or even 24 hours, may be judged appropriate.

Invigilated

Invigilation, to the standards achieved in a conventional examination-hall setting, is probably impossible.

Approximations are possible. Students could be required to leave their computer, tablet or mobile telephone video and audio channels open to an invigilator at the University. One or more staff will sample during the examination, and flag any concerns. This will discourage, but not entirely prevent, academic malpractice. A clear code would be required relating to the University's use of data obtained in this way.

Some commercial assessment services, referred to in a separate section, offer forms of human and AI invigilation.

Candidates securely identified

It is important that candidates are securely identified. Log-ins alone are insufficient to achieve this – a username and password can be given to another person. Visual identification, as suggested above, could be used. Other remote technical solutions may be possible – your IT or learning technology team may be able to help. Again, commercial services are available, as discussed earlier.

This is not the usual issue of protecting identity online. What we are trying to guard against here is the candidate willingly allowing someone else to impersonate them, for academic gain.

Language

Students have a range of language proficiencies. They may have taken notes in their first language rather than the language of instruction. In whatever medium answers are submitted, students should not be expected to have a higher standard of written English than is required for admission to the course.

Conclusion

We have sought to identify some important issues, and some approaches to resolving them. There will be other issues, and other approaches to dealing with them.

We hope that this guidance will be valuable. These are stressful times. But a scholarly, professional and humane approach to the issues and practices will help, along with a willingness to innovate.

We are well short of trying to achieve perfection here. Good enough is good enough.

We need to feel confident that we have done all that we reasonably can in the circumstances, and be able to defend the decisions we have taken and the methods we have used. And learn from them, when the dust has settled. We may well learn things which have application in calmer times.

We shall value receiving your comments, and hearing about your methods. This needs to be a collaborative venture. cde@london.ac.uk

Reference

Bridges, P., Cooper, A., Evanson, P., Haines, C., Jenkins, D., Scurry, D., Woolf, H. and Yorke, M., 2002. Coursework Marks High, Examination Marks Low: Discuss. *Assessment & Evaluation in Higher Education*, 27(1), pp.35-48.

Sources

A valuable current source is Brown, S. and Sambell, K., 2020. *Coronavirus Contingency Suggestions For Replacing On-Site Exams*. [online] sally-brown.net. Available at: <https://sally-brown.net/2020/04/02/kay-sambell-sally-brown-coronavirus-contingency-suggestions-for-replacing-on-site-exams/> [Accessed 14 April 2020].

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