Online and on-screen assessment in high stakes sessional qualifications: a briefing paper

A review of the barriers to greater adoption and how these might be overcome

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Summary

It has been suggested that, to mitigate risks around disruption to summer 2021 examinations, on-line or onscreen assessments might be used, to enable students who cannot attend their centres to sit their examinations.

Our review of the barriers to the use of high stakes on-line or on-screen assessments found five major issues with taking this approach *at scale* for summer 2021. The first four pose risks of unfairness to students and the fifth a risk to the system:

IT provision in centres

Current provision and the ability to prepare, at pace, varied widely between centres. Different devices and browsers/operating systems could lead to compatibility issues with the tests and differences in performance, disadvantaging some students. The cost of additional IT provision, particularly for one year's use only, might be difficult to justify.

Insufficient or unreliable internet and local network capabilities

Substantial local differences and issues in rural areas, were a major concern.

Staffing

A lack of specialist IT staff and issues around training other staff (teachers, examinations officers) were raised by centres.Changes to examination papers for summer 2021 and 'good' predictability

By summer 2021, students will have studied variable amounts of specification content. It has been suggested that two broad strategies might be used to ensure fairness to all students:

1. introducing/increasing optionality
2. changing the kinds of questions asked

Security

Centres' experience was often limited to managing security for paper-based examinations and variability between centres' infrastructure would make security risks difficult to manage consistently.

Planning

The most effective approaches to introducing online/onscreen testing depended on large-scale, collaborative efforts, with clear system leadership, investment, piloting and a well-considered appetite for risk. Robust risk management plans and mitigations and robust disaster recovery were needed. This would be highly challenging to implement in the timescales available.

Our review did not focus on the examinations themselves, but it is important to note that research suggests that the paper-based and online/onscreen versions of the same examination are not equivalent in difficulty, so different grade boundaries could need to be set for the two modes of the same examination. It would be highly challenging to develop online/onscreen assessments of equivalent quality to the paper-based ones in the time available.

Context

Some stakeholders have proposed that, to mitigate risks around disruption to summer 2021 examinations, on-line or onscreen assessments might be used, to enable students who cannot attend their centres to sit their examinations.

Online and onscreen assessment in high stakes sessional qualifications: a review of the barriers to greater adoption and how these might be overcome (Coombe, Lester & Moores, 2020)

Our research considered online (connected to the internet at the time of assessment) and onscreen (offline at the time of the assessment) assessments in high stakes qualifications such as GCSEs and A levels, which large cohorts of students are expected to sit at the same time.

Our focus was not on the assessments themselves. It is worth noting though that there is a considerable body of research into the impact of changing the mode (or way) in which students are assessed, by moving an examination from being paper-based to being online/onscreen. This research shows that it is very difficult to ensure that the standards of online/onscreen examinations are equivalent to those of the paper-based examination. This is, of course, essential so as to be fair to all students.

Research evidence tells us that taking onscreen/online assessments is a different experience for students. In some ways, they can be more challenging than paper-based ones. For example, scrolling can make it more difficult for students to read and re-locate particular points in text. Annotating text can help students to think through their answers, but we know that they are less able (and less willing) to do this online/onscreen, making questions harder. Some types of question, such as those that require students to order or sequence, are, however, easier online/onscreen, because students can move things around easily and check/revise their answers.

If the same examination was delivered in both a paper-based and an online/onscreen mode, it is unlikely that the modes would be equivalent in difficulty and probable that different grade boundaries would need to be set for each mode. This could be difficult for stakeholders to understand and accept as fair. To establish such a system to do this in time for summer 2021 examinations would be very challenging indeed.

Where online/onscreen assessments are currently used, a considerable amount of work has gone into developing them. Were online/onscreen assessments needed for a wide range of qualifications which do not currently use them, developing high quality assessments in the time available would be very challenging indeed.

Our research focused on the operational rather than technical barriers to the use of high stakes on-line or on-screen assessments.

The major barriers identified in our review

IT provision in centres

IT provision was the matter of greatest concern to centres. We found wide variation in provision between centres. The differences in current provision and in centres' ability to prepare themselves, at pace, could lead to unfairness to students.

Centres used a range of devices, with different browsers and operating systems. There were concerns about compatibility between different hardware/software and the online/onscreen tests themselves.

There were particular concerns about the lack of a sufficient number of devices of a consistent specification for whole cohorts (or substantial sub-cohorts) to sit examinations at the same time. Different devices would need to perform in an equivalent manner in assessment conditions, so that students were not disadvantaged. Any approach which relied on students using their own devices was considered very risky indeed and likely to disadvantage students from more deprived backgrounds.

If additional IT provision was necessary, centres were concerned that examination-ready computers, with appropriate security, could be expensive and difficult to procure. These might be less useful for classroom activities (where tablets were preferred) and centres were sceptical about whether the cost was justifiable, possibly for only one year's use.

Insufficient or unreliable internet and local network capabilities

This was the second highest concern expressed by centres, who cited substantial local differences between broadband speeds and particular problems in rural areas. Online assessments were more of a concern here than onscreen ones, which could be downloaded for subsequent use. Such differences were likely to disadvantage some students.

Staffing issues

Centres were concerned about having insufficient staff with the expertise or capacity to support the online/onscreen assessments, leading to disadvantage to their students. Specialist staff were difficult to recruit and retain. Some centres had their own in-house technical expertise, whereas others used third-party suppliers, so service agreements might need to be renegotiated.

Centres were worried about being able to give teachers sufficient training to enable them to support their students for this new mode of testing. Clear advice and support for teachers, IT support staff, exams officers and invigilators would need to be provided.

Security issues

This was a major concern. Substantial variability between centres' infrastructure meant that security risks around the delivery of the tests and uploading of data would be complex to manage. Centres were accustomed to dealing with test security for paper-based testing, but these arrangements would be different for online/onscreen tests. Malpractice might be more difficult to identify and challenge, leading to unfairness.

Planning issues

Were online/onscreen examinations to be used at any scale for summer 2021, a major issue would be the timescales. Our review found that jurisdiction-wide, collaborative efforts led by sponsoring national/regional government or examination boards was an effective approach. There needed to be system leadership in place and clear roles and responsibilities. Considerable investment in both school/college infrastructure was needed. Piloting was essential. There needed to be a well-considered appetite for risk, with an acceptance that things could go wrong. Robust risk management plans and mitigations and robust disaster recovery were needed.