

## 8 key things about online invigilation\*

\*'remote proctoring' as our American cousins would say

### Background and History

Calibrand the currency for talent® has carried out over 20,000 UK based exams using online invigilation. Most of these have been in partnership with our clients integrating with an online invigilator of their choice. A good minority have been through our training subsidiary Caliquial on multiple-choice exams for our Diploma in Professional Financial Advice awarded by SQA and Chartered Banker.

We have a unique experience for a UK based company dealing with mostly UK clients and delivery. Here are some of the things we have learned:

### Purpose – why are we doing this?

The main reasons for going to online invigilation are (in no particular order):

- i) Cost; compared to test centres;
- ii) Convenience; especially for the candidate (no need to travel, can do the exam in the workplace, maybe even under certain circumstances, at home); and
- iii) A more secure and accurate record of the examination; compared to (say) a human interaction with all the attendant errors in concentration, observation and memory.

### 1. Cost; what are the savings?

It is disappointing that, 20 years after developing our first assessment system, the largest cost in the delivery of most eAssessment is still test centres.

The organisation or candidate pays for that experience contributing towards the upkeep of a building that has to be rented, heated and lit 24 x 7 x 365 when they only use it for a small fraction of that time. In contrast the eAssessment systems and internet connectivity are often a fraction of the cost. So logically there should be a good cost saving here.

The invigilator themselves are part of the test centre experience as they are for an online invigilation. Often the test centre invigilator oversees 12-15 candidates maximum on a concurrent basis. The most for 'live' online invigilation we have come across is 6. So it's probably fair to say that the cost per candidate for invigilation is higher for online invigilation than it is in a test centre.

Costs for test centres often depend on the number of candidates taking a particular exam or test and at what times, since the test centres run into profit at the point at which its fixed costs are covered. Costs for online invigilation are often strongly

correlated with the cost of the invigilator, a variable cost which is dependent on the time the exam takes.

***For our online invigilation provider comparison table please contact busdev@calibrand for a confidential copy.***

## **2. Bandwidth; Hey! You! Get off of my cloud!**

An important thing to ask might be; do my candidates have enough bandwidth? They need enough for both the online invigilation **AND** the eAssessment system,

Many online invigilation companies and eAssessment providers will give a minimum bandwidth required figure, usually at or below 2MB/s.

The real question is what is the **maximum** bandwidth required. So if the online invigilation system is running a 'live' video of the screen activity, a video of the candidate and an eAssessment video question (assuming you use them) what is the bandwidth required?

- Video of candidate from device – (say) 2MB/s
- Video of candidate device screen – (say) 2MB/s
- Video question – (say) 2MB/s



So rather than the 1.5MB/s that many of the online invigilation companies are advertising, for live streamed invigilation we could be looking at a requirement of 6MB/s. A simple internet search will show that that is probably a minimum for video and if high definition was required it would need to be more. Even for exams without video, no doubt the vast majority, there will still be an eAssessment system requirement on top of the online invigilation need. For example @Calibrand our recommendation for Calibrandtest is 2MB/s.

There are several consequences of getting this wrong. The first is that something will get 'knocked out', either the online invigilator, or the eAssessment system or both. The re-connection process and the management of the inevitable disruptions to the exam need careful consideration. Do you carry on with the exam without the invigilation? Clearly you can't carry on the invigilation without an exam. What and how do you communicate the procedure to the candidate? How long do you allow for re-connection? Good questions, all of them.

This is especially relevant to us at the moment with the new version of our test player which allows the exam to continue even if the internet connection is lost.

There are often integrated system checks to establish device and bandwidth compatibility with the eAssessment and invigilation process. Please double check these taking into account the analysis above.

### 3. Candidate experience; Culture Club

Online invigilators may often be based in different countries across the world inevitably with differing cultures, different native languages and experiences. It is important that the client, online invigilator, and candidate understands the service, especially if in real time. For example, for anyone who has carried out business on a global basis 'punctuality' has a seemingly different definition in different regions.

This is important in terms of ensuring that the test 'windows' i.e. the time during which the exam can be accessed is set correctly and with a wide enough 'window' to allow completion should the candidate or invigilator be late or if there are any delays due to set-up issues.

The other thing any organisation should ask is 'Who do I want invigilating my students? Often the invigilators used are students themselves, or casual workers. Is that what you require?

### 4. Candidate experience; Time zones

In 1884, the Greenwich meridian was internationally adopted as the base setting for time across the world. Most local time is based on a number of hours or half-hours adjustments from Greenwich Mean Time (GMT).

Our experience here is that when integrating different systems, eAssessment, online invigilation, exam booking, student record system, CMS, etc. It is important that all possible scenarios are considered, not just for the initial integration, which is usually straightforward, but also for the updating.

An example of where careful consideration is required would be what to do if a pre-released case-study (say 14 days before the exam) covered the 14 days during a summer time to winter time adjustment (say), especially if after a certain time the case-study is to become 'unavailable'.

Another would be how to handle the dates at which GMT changes to BST in the UK with all the attendant alterations across the world as well as the fact that some countries change at different times.

We've learned that time zone management is a lot more complex than we thought!

### 5. "Live" or "Record and review"

A big decision when moving to online invigilation is whether to go 'live' or 'record and review'. The initial response is often that 'live' is preferable and most nearly replicates the experience a candidate would have in a test centre or classroom.

There are technical issues as well here. Often the record and review systems involve downloads which involve supporting and maintaining them on various browsers. 'Live' invigilation puts increasing demands on bandwidth (see above).

In terms of cost the record and review option should be lower, the review can take place at a different time and the video record can be perhaps run at x2 or x6 speed.



A question to ask might be, 'What is the invigilator to do if they suspect cheating? For example using the Calibrandtest system they are able to pause or even stop the exam. In test centres or class rooms though the usual practice is for the invigilator to note the details and report back after which a review takes place. So in this respect record and review may be appropriate?

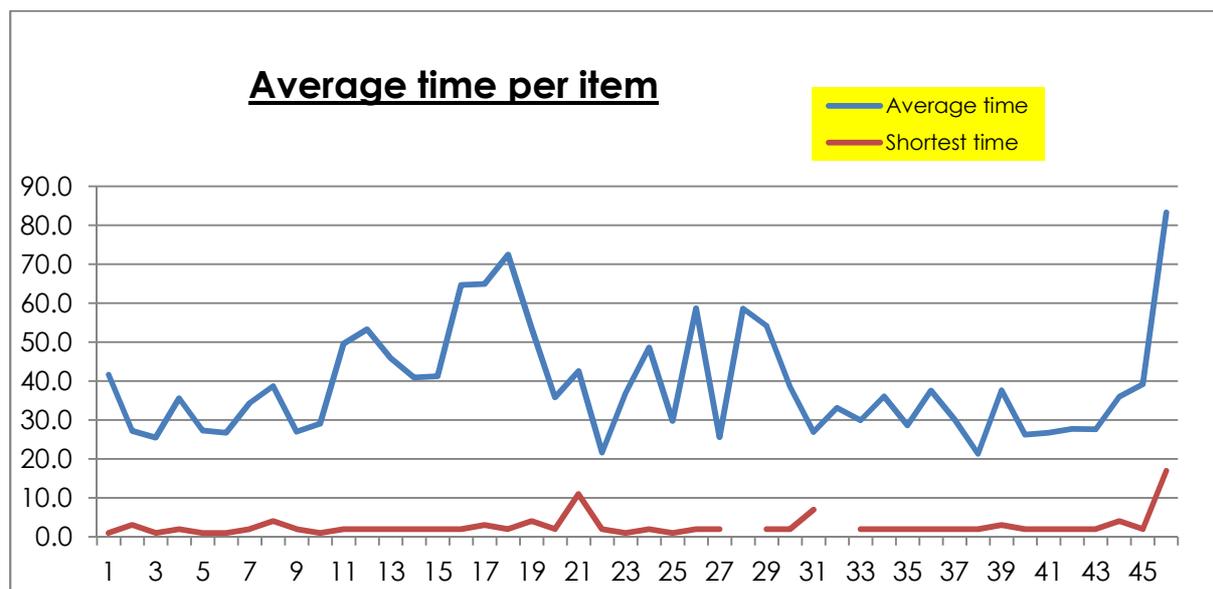
### 6. Client-facing or embedded technology?

Many online invigilation providers are now looking not only at a client-facing option, with all its challenges, but additionally an embedded technology solution where a 'record and review' option with key features is provided within the eAssessment system.

New initiatives include facial recognition algorithms and some providers offer random photo scanning as opposed to video. This certainly helps with the bandwidth issue.

### 7. Forensic reporting

Over the years the Calibrandtest system has provided information to identify and prosecute people cheating in examinations including some very high profile contracts.



An example from a contact centre is provided, anonymised, in figure 1 (p5). The blue line indicates the average time in seconds (vertical axis) for all candidates to answer each of the 46 questions (horizontal axis) in the multiple-choice test; the red line is the time for a particular candidate! He or she wasn't actually doing the test; the invigilator had the answers and was doing it for the candidate.

The point is use all the technology at your disposal, forensic reporting, facial recognition, cadence analysis, invigilation videos or scans and of course old style things like photographic evidence, driving license and passport.

## 8. Cheating; deter or encourage?

The issues for exam cheating avoidance remain the same:

- i) Is the person taking the exam the person they say they are, the person they are supposed to be and that person remains in situ during the exam; and
- ii) Does any cheating go on during the exam.

In one respect a comparison between online invigilation and a classroom paper based exam or a test centre exam is difficult. In a paper exam there is now both forensic evidence and a record of the session. In a test centre, forensic evidence is not always used. The ratio of candidates to invigilators in both cases is much greater than for online invigilation. Historically there is plenty of evidence of cheating being identified the real question is how much never was.

Online invigilation is certainly more intrusive than traditional invigilation and the candidate is in no doubt that they are being watched. Whether that stops them cheating is difficult to say. Certainly the base data from which comparison would be possible is often inaccurate and dated.

There is more than one remote invigilation organisation that believes they can 'prove' that the automated method is superior in identifying cheating to the human method. I think that is the basis of a further discussion.

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