

# Facilitating Online Assessment

Learnovate has compiled a series of guides to support Higher and Further Education lecturers and tutors. The purpose is to provide support in these challenging times to those providing teaching and assessment activities to their students through the use of digital tools and technologies.

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This report was created by Learnovate at Trinity College Dublin.

## 1. Context

In light of the recent COVID-19 global pandemic there has been an urgent need to move higher education teaching and learning online. Lecturers have been at varying levels of comfort with this requirement. As a leading learning technologies research centre, Learnovate has compiled a series of guides to support lecturers and tutors. The purpose is to quickly provide support to those providing teaching and assessment activities to their students through the use of digital tools and technologies. Learnovate may well follow these publications with more comprehensive resources in the future.

Learnovate, hosted by Trinity College Dublin, is an industry-led centre of excellence for research and innovation in learning technologies.

Learnovate boasts a multidisciplinary team of specialist researchers in learning sciences, computer science, user experience and user-interface design – as well as industry experts at the forefront of e-learning and EdTech innovation.

### 1.1. Online assessment

**Note CAPSL has already provided separate guides on Multiple Choice Questions and Open Book Assessment, therefore we have not duplicated those approaches here.** Both formative and (assessment for learning) summative (assessment of learning) assessment activities can be facilitated in an online environment, with a variety of tools available to educators. While the tools and technologies exist to facilitate online assessment, as with all approaches to learning and learning design, it is important to identify *what* it is that needs to be assessed before addressing *how* to facilitate that assessment in an online medium. The same careful consideration that we would apply to the selection of assessment methods for our face to face teaching still needs to be applied when choosing appropriate online mechanisms. We shouldn't simply be led by the tool/technology that is most readily available to us.

While the use of approaches such as MCQ (multiple choice questioning) and open book exams are often the most obvious solutions. We would like to explore some alternatives for distance assessments and the benefits that these might provide; namely:

- MEQs (modified exam questions)
- e-portfolios, and
- online reflective blogs.

We hope you will find this information useful.

For any further queries, please do not hesitate to contact us at Learnovate.

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## 2. Modified Essay Questions (MEQs)

### 2.1. What is it?

Students are presented with a scenario, asked questions based on it and provide short text answers. The MEQ tends to be used frequently in the medical sciences. The MEQ is seen as sitting between the traditional essay question (TEQ) and Multiple Choice Questions (MCQ). It is intended to be more efficient than TEQ in assessing a student's ability at a wider level. It is also deemed to be able to go beyond an MCQ in providing opportunities to test higher order thinking rather than just identifying the right factual answer (Palmer and Devitt, 2007).

### 2.2. What it does

The MEQ is usually a sequence of questions which features a gradually evolving scenario, often a case study. For example, in medicine it might cover the sequence of a patient examination covering; medical history, tests to carry out, diagnosis and others (Chuen-Hian et.al. 2007). The approach gives students the opportunity to show what knowledge they have retained and how they might apply it to a given problem. The answers are short and as such make the marking of papers quicker than a TEQ and in theory improve the consistency of the mark. MEQs are better suited to closed-book exam situations as these questions often assess the combination of problem-solving and knowledge recall. They may need significant modification to be used in open-book contexts

### 2.3. Why for digital?

Typical responses to MEQs can range between 50 and 160 characters, technology can help restrict input to these levels. The short nature of the answers significantly reduces the time needed to mark papers over TEQs. MEQs have been delivered successfully via VLEs in summative examinations, (Chuen-Hian et.al. 2007; Fortun and Tempest, 2020) delivered onsite and remotely. Virtual Learning Environments (VLEs) also provide the opportunity to provide the case study in a more engaging fashion.

Extended Matching Questions (EMQs) can be considered as an alternative to MEQs and have been shown to be effective in digital assessment (van Bruggen et.al., 2012). Leveraging again an example from the medical world EMQs consist of a theme with a lead-in statement, a minimum of 6 and a maximum of 26 options are provided to the student to make decisions in the clinical process (van Bruggen et.al., 2012). EMQs therefore are intended to test application of knowledge rather than facts. The use of large numbers of options is to try avoid cueing the correct answer to the student. However note one paper recommends one hundred EMQs are needed for a reliable and valid exam (van Bruggen et. al. 2012).

## 2.4. Best practices

One of the issues associated with MEQs is missing the opportunity to investigate higher order thinking through poor question construction. Often the MEQ questions are still heavily based on factual responses, a process already well served by MCQs.

In developing effective MEQs it will often require input from several members to develop good case studies, develop an effective rubric and align to Bloom's higher order skills (Palmer and Devitt, 2007).

It was also shown to be more beneficial to use MEQs in conjunction with other question types e.g. MCQs and extended matching questions (Wilkinson & Frampton 2004).

If you are using MEQs there is some support for providing students with a mock version first which can improve performance and satisfaction in subsequent tests (Fortun and Tempest, 2020).

## 2.5. Tools to help

Many quiz/survey/test tools can support the creation of MEQ style assessments. At the most basic level, services such as Google Forms, Microsoft Office Forms or Survey Monkey can be used. This can be appropriate for stand alone exercises or for cases where a VLE is not available.

LMS such as Blackboard Learn and Moodle also provide quiz functionality with the ability to more tightly integrate them into a more familiar environment for both the student and the educator.

Rather than relying on asking students to read through a case study in the form of a document, it would be interesting to be able to use other mediums such as video. Unfortunately in the case of Panopto the built in 'quiz' functionality does not extend to open text style questions. This means that we would need to create the MEQ in the LMS or using another tool rather than being able to embed the MEQ questions in the video itself as we would with a MCQ style assessment.

In terms of summative assessment MEQ is essentially a closed book format and to this end will require some form of invigilation if being run remotely. TestReach ([www.testreach.com](http://www.testreach.com)) is an Irish company currently providing a service in this space. Fortun and Tempest delivered MEQ components remotely using Examsoft ([www.examssoft.com](http://www.examssoft.com)) (2020).

## 3. e-portfolio

### 3.1. What is it?

The National Learning Infrastructure Initiative defined electronic portfolio (e-portfolio) as a 'collection of authentic and diverse evidence, drawn from a larger archive representing what a person or organization has learned over time, on which the person or organization has reflected, and designed for presentation to one or more audiences for a particular rhetorical purpose' (Barrett & Carney, 2005). This material can range from coursework and essays to case studies, videos, and images. e-portfolios can be used for a number of reasons, 'as assessment tools to document the attainment of standards (accountability purposes), as stories of deep learning (learning purposes); and as complex resumes to highlight competencies (marketing purposes)' (Wolf, 1999). According to Basken (2008), ePortfolios "are a way to generate learning as well as document learning". For the purposes of this piece, we are looking at e-portfolios specifically in relation to online assessment, both formative and summative, and what tools and approaches can be used to facilitate e-portfolios for assessment purposes.

### 3.2. What it does

'Portfolios ... emphasize process—they provide formative assessment information that is of use for identifying gaps in one's knowledge, transforming those gaps into new objectives, selecting appropriate learning activities, and developing self-assessment strategies for continuing growth. As Hertels notes, portfolios do this "in a process that helps embed the knowledge, put it into a context, and give the student more ownership and control" (p. 108)' (Alexiou & Paraskeva, 2010) (Hertels, 2004).

While we are specifically looking here at e-portfolios for assessment purposes, the e-portfolio should support learner reflection and collaboration where possible to maximise its use for learning. This can be facilitated in a number of ways online.

### 3.3. Why for digital?

Assessment through portfolio lends itself very well to the online environment as it is relatively simple to upload coursework, essays, case studies, videos, images and other artifacts onto the learning management system that is currently in use or simply into a folder that can be shared with tutors and/or fellow students if peer-to-peer feedback is required. The e-portfolios should be structured consistently for assessment purposes and on completion of a course, the student, while perhaps losing access to the LMS, can retain access to their e-portfolio for future use.

### 3.4. Best practices

As with most approaches to learning and assessment, it is important to explain the benefits of e-portfolios to students. e-portfolios can be used to facilitate deeper learning when used well and this is a good selling point to share with students.

The use of previous examples of e-portfolios or case studies helps to get students on board while explaining the purpose of the e-portfolio. Ensuring that students know that the e-portfolio is part of their assessment, and not an additional task, should help to motivate them to engage with the process.

It is also important to set expectations on how the e-portfolio should be structured and what to include where. For example, there could be a folder for classroom work and assignments, a section on case studies and real-world applications, an area for students to include their personal reflections on tasks or assignments and even a welcome section for the student to introduce themselves to others and for students and tutors to learn a little more about each other. Ensuring there is consistency across e-portfolio structure and content also assists tutors in the assessment process.

While we address collaboration in another of our Learnovate pieces, allowing students to comment on each others' e-portfolios helps to foster a culture of collaboration and therefore more engaged students. In order to ensure that e-portfolios are assessed in a consistent manner, the use of a rubric can be useful. There are a number of rubrics available, such as those outlined below<sup>1/2</sup>.

### 3.5. Tools to help

While the LMS you are currently using can be appropriated to incorporate an e-portfolio, there are a number of useful tools available to complement an e-portfolio approach.

Sites such as Weebly ([www.weebly.com](http://www.weebly.com)) and Wordpress ([www.wordpress.com](http://www.wordpress.com)) allow students to create websites using specific templates and they can add content using simple drag-and-drops. Google Sites can be used for similar purposes and can be integrated with other Google apps where necessary.

Education specific variations of online productivity tools such as Microsoft OneNote Class Notebook<sup>3</sup> and Google Classroom can provide an environment in which ePortfolios can be created and managed.

Evernote ([www.evernote.com](http://www.evernote.com)) can also be used as a note-taking tool for students which also allows students to upload their own content and then organise it. Another ePortfolio tool that has been used by Disability Services in TCD<sup>4</sup> is PebblePad (<https://www.pebblepad.co.uk/>).

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<sup>1</sup> <https://www.utc.edu/think-achieve/pdfs/eportfoliorubricthinkachievegrads.pdf>

<sup>2</sup> <https://www.bhprsd.org/cms/lib02/NJ01001930/Centricity/Domain/352/E-portfolio%20Rubric.pdf>

<sup>3</sup> <https://www.microsoft.com/en-us/microsoft-365/blog/2016/04/20/onenote-class-notebook-as-an-e-portfolio/>

<sup>4</sup> <https://www.tcd.ie/disability/services/career/pebblepad.php>



## **4. Reflective blogs**

### **4.1. What is it?**

Blogs can be described as “simple content management tools enabling non-experts to build easily updatable web diaries or online journals” that are “networked between several users who post thoughts that often focus upon a common theme (Kamel et al., 2007). Characterising all types of blogs is their location in a shared online space with an intention to facilitate the learners' reflective thinking (Fernstrom et al., 2011).

### **4.2. What it does**

Reflective blogs provide students with opportunities for reflection to encourage a deeper learning experience while also facilitating opportunities for summative assessment through tutors and formative assessment via peer-to-peer feedback.

Tutors and peers can comment on students' blog content, making suggestions and sharing information, thus creating a more collaborative learning experience.

### **4.3. Why for digital?**

The digital environment provides opportunities for students to add/upload content that is immediately viewable by tutors and fellow students. Online reflective blogs have commenting options to allow for feedback that is transparent for the student while also being of value to other students as a more collaborative approach to learning and assessment.

As well as text or posting, blogs using video postings, or ‘v-logs’, have become popular and more frequently used in online educational spaces (Lindberg et al., 2010). The use of multimodal approaches to learning and assessment can help to provide a more engaging learning experience for students due to the variety of content types.

### **4.4. Best practices**

It is vital to set expectations for students as to what is meant by peer-to-peer assessment as well as setting guidelines for how feedback is to be given. For example, providing instructions to students to note three positive points about a fellow student's blog and one recommendation helps to ensure it is a positive experience and does not damage the learning and assessment process. Also, ensuring that each

student has a minimum number of blogs to comment on is important for consistency purposes, and if the process is to be used for summative assessment purposes at the end of the course.

#### **4.5. Tools to help**

There are a few online journals such as Journalate ([www.myjournalate.com](http://www.myjournalate.com)) and Diaro ([www.diaroapp.com](http://www.diaroapp.com)) that allow students to sort entries into folders as well as tag blog entries with keywords. As mentioned in the previous section on e-portfolios, Weebly ([www.weebly.com](http://www.weebly.com)) and Wordpress ([www.wordpress.com](http://www.wordpress.com)) allow students to upload content, provide for commenting and tagging of content. These sites also have the functionality of making blog posts private, sharing with a certain group of people, or entirely public. YouTube ([www.youtube.com](http://www.youtube.com)) allows for audio and video sharing as well as having a commenting function. Similarly, Panopto's Assignment Folder<sup>5</sup> functionality could be used to allow students to record and share videos that they create themselves.

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<sup>5</sup> <https://support.panopto.com/s/article/Use-Assignment-Folders-for-Student-Recordings>

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