

Repurposing Face-To-Face Exam Questions for Open-Book Exams (V2)

The following table is adapted from the appendix to 'Rewriting the Exam Script' (Johnston, J. & O'Farrell, C. *AISHE* 12:2, 2020). The article reflects on an institutional development project focused on enabling a shift from traditional examinations to open-book assessment practices at Trinity College Dublin, the University of Dublin (Trinity) during the Covid-19 'lockdown'. The table below outlines sample questions from across the disciplines, either modified from or used in, previous exam sessions at Trinity. The questions put forward here would typically have been 'approved' by externs for use in face-to-face, closed-book contexts, as part of standard procedures at the time of their design and intended use. The purpose of this table is to prompt reflection on how to adapt questions like these for use in an open-book paradigm.

The modifications suggested here prioritise the support of academic integrity when adapting questions for open-book contexts. They offer some suggestions to consider, but they are neither exhaustive nor prescriptive. Many of the modifications suggested can be readily transferred to other disciplinary contexts, e.g. through word-count restrictions, addition of 'Part B' questions, the addition of a student (personal) artefact, and the use of TurnItIn via the Blackboard VLE to generate similarity reports. Blank additional rows are purposefully placed at the end of the table so colleagues might consider adding their own reflections or making further additions to the table.

Source Faculty:	Sample Exam Question	Considerations when Repurposing as Open-Book	Possible modifications?
KEY: FEMS = Faculty of Engineering, Maths, Sciences; AHSS= Faculty of Arts, Humanities, Social Sciences; FHS= Faculty of Health Sciences			
FEMS	How is flux through glycolysis controlled?	Can students google the answer (i.e. does this only test recall of knowledge)?	Consider: <ul style="list-style-type: none"> - Rewriting as an application style question e.g. Explain flux through glycolysis in the context of [specific lecture/workshop/example provided]). - Adding in a Part 'B' to the question, e.g. justify your response in the context of [x]. - Requiring an annotated bibliography so students demonstrate where/how their 'knowledge' was acquired.
FEMS	Discuss why haemoglobin exhibits a sigmoidal oxygenation curve while myoglobin exhibits a hyperbolic curve (include the oxygenation curve(s) with detailed labels of axes and give descriptions to the features of the curve(s).)	Compare/contrast style questions require students to differentiate and identify relevant information. <ul style="list-style-type: none"> - Can students source the information for each curve separately from web resources? 	Consider: <ul style="list-style-type: none"> - Adding in a strict word-count limit (e.g. 800 words) to mitigate against copy/pasting from internet sources. - Using TurnItIn via Blackboard to generate similarity reports for text? - Upload a personal artefact contextualising student response, e.g. a pdf image of a student's hand-drawn curve, photographic image.

		- Might students be tempted to seek support from an essay mill/essay bank?	
AHSS	PART ONE: answer three out of four of the short essay questions; e.g. Define how Schein (1985) defines culture.	<p>Three essays in three hours model may not easily transfer to remote open-book exam</p> <ul style="list-style-type: none"> - Current 350 word limit (excess words penalised) on each short answer question limits copy/pasting from internet sources - How long is reasonable for a student to prepare and complete each essay?. 	<p>Consider:</p> <ul style="list-style-type: none"> - Rewriting as a compare/contrast style question which might probe student knowledge more deeply, e.g contrast [x]'s definition of culture with [y]'s. - Reducing number of questions to be answered within time frame. - Acknowledging increased expectations in depth/sophistication of student response. - Limiting the number of sources consulted and require evidence for these?
Source Faculty:	Sample Exam Question	Considerations when Repurposing as Open-Book	Possible modifications?
AHSS	Part TWO: MCQs.	<ul style="list-style-type: none"> - Have students done the MCQ themselves? - Have students followed the calculation process for MCQ solutions correctly, but arrived at the wrong answer? 	<p>Consider:</p> <ul style="list-style-type: none"> - Randomising access to MCQ order of questions/restricted time window for completion (<i>assumes a short time-window of student access to MCQ bank</i>). - Requiring evidence of personal engagement, e.g. screenshot/photo of calculation/sources consulted as a personal artefact.
FEMS/FHS	<p>Questions: 2 of 3 in 90 mins. Exemplar question:</p> <p>Compare and/or contrast [<i>in situ</i> and <i>ex situ</i> plant conservation] approaches.</p>	<p>Question asks students to showcase and synthesise/evaluate their own knowledge gained over time.</p> <ul style="list-style-type: none"> - Can students make use of an essay mill/essay bank to write their exam? 	<p>Consider:</p> <ul style="list-style-type: none"> - Adding in a strict word-count limit (e.g. 800 words) to mitigate against copy/pasting from internet sources. - Using a strict word limit to encourage students to be discerning in what they include in their response. - Requiring an annotated bibliography to help ensure that a student has done the work for this open-book exam essay themselves. - Adding in a Part B to the question: e.g. Relate or contextualise your response to a specific [lecture/workshop/example etc].

			- Limiting the range of the question, e.g. using specific examples of where <i>in</i> and <i>ex situ</i> conservation approaches are in place?
AHSS (French - or any language)	<p>*Composez un texte argumenté (300 mots) pour répondre à l'<u>une</u> des questions suivantes:</p> <ul style="list-style-type: none"> - est-ce que voyager nous rend meilleur? - la science se doit-elle d'être morale? <p><i>Write a short text responding to one of these prompt questions:</i></p> <ul style="list-style-type: none"> - <i>Does travel foster personal growth?</i> - <i>Does science need to be ethical?</i> <p><i>*translation – author's own, may not be perfect!</i></p>	<ul style="list-style-type: none"> - Students previously had no access to dictionaries: what is the impact of access to dictionaries/web style guides on composition? - Can students make use of an essay mill/essay bank to write their exam? - How might you mitigate against a student asking a native speaker friend to proof-read a submission? 	<p>Consider:</p> <ul style="list-style-type: none"> - Acknowledging increased expectations in depth/sophistication of student language where access to dictionaries etc is assumed. - Using TurnItIn in Blackboard to generate similarity reports? - Inclusion of an 'honour statement'/declaration of student integrity?
Source Faculty:	Sample Exam Question	Considerations when Repurposing as Open-Book	Possible modifications?
AHSS	<p>Answer four questions in three hours. Qs are in the style of: "[Extended quote from source]'. Comment."</p>	<p>Scenario-based question asks students to showcase and synthesise/evaluate their own knowledge gained over time.</p> <p>Scenario-based question limits likelihood of google-search friendly answer.</p> <ul style="list-style-type: none"> - Can students make use of an essay mill/essay bank to write their exam (within the time window provided)? - How long is reasonable for a student to prepare and complete each essay? Four 	<p>Consider:</p> <ul style="list-style-type: none"> - Using TurnItIn in Blackboard to generate similarity reports. - Acknowledging increased expectations in depth/sophistication of student response. - Requiring annotated evidence of bibliography/sources consulted (e.g. personal artefact). - Reducing number of questions to be answered (e.g. acknowledge that exam is not the same as a continuous assessment task). - Restricting word count to limit inclusion of external sources.

		essays in three hours model may not easily transfer to remote assessment.	
FEMS	'Credit will be given for the best three of four questions answered in three hours'; questions are scenario-based and require students to show/prove conclusions.	<p>Three proofs in three hours approach may not easily transfer to remote assessment.</p> <ul style="list-style-type: none"> - Is there an unacceptable risk of collusion between students? - Are students likely to be able to consult an exam mill for support? - How long is reasonable for a student to prepare and complete each proof? 	<p>Consider:</p> <ul style="list-style-type: none"> - Reducing number of questions students need to answer? - Requiring evidence of personal engagement, e.g. screenshot/photo of calculation/sources consulted as a personal artefact. - Making explicit how long students should spend on each question?
Source Faculty:	Sample Exam Question	Considerations when Repurposing as Open-Book	Possible modifications?
FHS	<p>Section 2: MEQs. 90 min exam; 3 questions to be answered.</p> <p>Sample Q (multistage):</p> <p>1a. Define public health practice</p> <p>1b. Give examples of differences between hospital practice, general practice, public health practice.</p> <p>1c. For 3 different categories of health information give examples using data of how health status differences between countries can be measured.</p> <p>1d. What are the characteristics of good public health policy development?</p> <p>1e. Give three examples of health inequities within countries.</p> <p>1f. What is the 'vision' for healthy Ireland (2013-2025).</p>	<p>Questions are drafted to assess learning from available lectures, web lectures, seminars, and course textbooks.</p> <ul style="list-style-type: none"> - Can any of these question elements be googled easily, i.e. do they only test recall? - Can the different stages of each MEQ be integrated to require students to demonstrate and synthesis their knowledge in the area, rather than being down in a step by step manner? 	<p>Consider:</p> <ul style="list-style-type: none"> - Using a scenario-based question to limit likelihood of google-search friendly answer, e.g. consider asking student to answer question from e.g. patient/practitioner/policy maker/manufacturer/researcher perspective. - Writing as compare/contrast style question which might probe student knowledge more deeply, if appropriate and within the frame of the stated learning outcomes, e.g. contrast [x]'s definition of public health practice with [y]'s; 'how does the strategy for vision of healthy Ireland align with [x]?' - Rewriting questions to assess application of knowledge or to enable students to showcase and synthesise/evaluate their own knowledge if appropriate and within the frame of the stated LOs? - Requiring students to submit annotated bibliographies/screen-captured images of their search histories to emphasise personal ownership of content?

<p>FEMS</p>	<p>List and describe four environmental conditions that challenge contemporary managers.</p> <p>Draw on appropriate material from the course to examine a (managerial or organisational issue of interest to you).</p>	<p>Second part of question works well in open-book context as it asks students to draw on material from course and asks for a personal response to it.</p> <p>- In the first part of the question, can students google answer to 'list and describe'?</p>	<p>Consider:</p> <ul style="list-style-type: none"> - Adding a Part B to the first element of the question (explain/justify your choice). - Rewriting question with a case study/trigger to turn it into a scenario-based question. - Might students be asked to include a brief reflection on why they chose the organisational issue of interest? If so, wordcount might be revisited/reduced in earlier part of question to reflect extra workload. - Using TurnItIn to generate a similarity report.
<p>Source Faculty:</p>	<p>Sample Exam Question</p>	<p>Considerations when Repurposing as Open-Book</p>	<p>Possible modifications?</p>
<p>AHSS</p>	<p>'The study of censorship is a powerful tool for analysing power and powerlessness in any given society'. Discuss.</p>	<p>Requires synthesis of knowledge.</p> <p>- Can students make use of an essay mill/essay bank to write their exam?</p>	<p>Consider:</p> <ul style="list-style-type: none"> - Restricting reference list, e.g. limiting students to lecture materials/notes or to a set of e.g. 10 pre-provided resources to inform their answer. - Requiring students to provide an annotated bibliography to emphasise personal ownership of content. - Being clear in your increased expectations in depth/sophistication of student response in open-book context. - Consider asking student to answer question in the [context] of a current [situation]. - Consider asking student to answer question from e.g. speechwriter/public/politician/policy maker perspective. - Writing as compare/contrast style question which might probe student knowledge more deeply, if appropriate and within the frame of the stated learning outcomes, e.g. contrast [x]'s definition of censorship with [y]'s. - Adding in a strict word-count limit (e.g. 800 words) to mitigate against copy/pasting from internet sources.

<p>AHSS</p>	<p>The survey on incoming and living conditions (SILC) is the official source of statistical evidence on poverty in Ireland. Write brief notes on the following concepts used in the survey: ‘equivalence scales’; ‘real and nominal incomes’; ‘Gini co-efficient.</p>	<ul style="list-style-type: none"> - Can students google solutions (e.g. is this testing recall alone)? - What are ‘brief’ notes in an open-book environment? 	<p>Consider:</p> <ul style="list-style-type: none"> - Testing the application of knowledge. - Testing the interpretation of evidence or framework, e.g. align your response with specific areas of the survey? Write brief notes on how the following concepts are used in the survey. - Requiring 3-4 references to support student response as indication of sources consulted. - Consider asking student to answer question from e.g. public/policy maker/researcher perspective. - Rewriting as compare/contrast style question which might probe student knowledge more deeply, if appropriate and within the frame of the stated learning outcomes e.g. contrast [x]’s definition of SILC with [y]’s. - Could data from the survey be used to provide a stimulus for a scenario-based question?
<p>Source Faculty:</p>	<p>Sample Exam Question</p>	<p>Considerations when Repurposing as Open-Book</p>	<p>Possible modifications?</p>
<p>FAHS (any)</p>	<p>[Scenario describing an error in treatment]. Imagine you are [x] the [pharmacist/GP/OT etc]. Having reflected on the factors surrounding the error above:</p> <ol style="list-style-type: none"> (a) Describe the causes of the error. (b) Assess the risk associated with a potential future recurrence. (c) What actions will you take to prevent the error from occurring again. <p>Your answer should refer in detail to the theoretical principles and strategies of risk management.</p>	<p>Question focuses on application of knowledge.</p> <ul style="list-style-type: none"> - Is there a risk of student collusion and/or (accidental) plagiarism? - Might a student use an essay mill or essay bank to provide an answer? 	<p>Consider:</p> <ul style="list-style-type: none"> - Adding in a strict word-count limit (e.g. 800 words) to mitigate against copy/pasting from internet sources. - Adding in a Part ‘B’ of question, e.g. “if you can only take 2 actions, what would they be and why?” - Requiring 3-4 references to support student response. - Requiring TurnItIn submissions to generate a similarity report.

The Centre for Academic Practice in Trinity College Dublin is a centrally located educational development unit focused on the enhancement of teaching, learning, research and leadership. The team, in alphabetical order, are: Ms Nicola Byrne (Educational Support Officer), Ms Jade Concannon (Educational Support Officer), Dr Jonny Johnston (Academic Developer), Dr Niamh Mc Goldrick (Academic Developer), Dr Ciara O'Farrell (Head of Academic Practice), Prof. Cicely Roche (Academic Developer), and Dr Michael Wride (Academic Developer). The authors would like to acknowledge the team's role in developing a full suite of resources targeted at responding to the Covid-19 crisis. Resources can be viewed on the [Academic Practice & eLearning](#) website.