Academic Practice, Trinity Teaching & Learning

Open-Book Assessment:
A Handbook for Academics

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Purpose of this Handbook

This handbook provides an introduction to open-book assessments and contextualises guiding principles for their design, development and implementation in a Trinity context. For many colleagues, open-book approaches to assessment may be unfamiliar territory. This handbook aims to support all staff with teaching responsibilities to find out more about the merits of open-book assessment approaches and it outlines key issues to consider when designing effective open-book assessments.

*Note: this document is intended as guidance only. It is not a statement of formal University policy and is not intended to be prescriptive.

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What is an open-book assessment?

In an open-book assessment, students have access to their notes and/or other resources as they complete the assessment. Typically, students can refer to class notes, textbooks, primary or secondary sources and online resources. Using open-book assessment successfully requires clear guidelines and student adherence to principles of academic integrity.

In a Trinity context, open-book assessments may include:

- **Take-home exams** where students are given assessment tasks/questions and have a defined time period in which they must prepare, complete and submit their assessment. Duration of take-home exams may range from <24 hours (deadline within the same day) or more (where students have a number of days/weeks to complete their assessment).
- **Real-time exams** where students complete a timed exam online. These exams may or may not be invigilated.
- **Traditionally 'continuous' assessment** which are not carried out under exam conditions.

Why use open-book assessments?

Traditionally, many high-stakes assessment tasks at university are closed-book. Students are expected to rely solely on memory to come up with solutions to problems they will likely not have seen before. This style of assessment can tend towards encouraging memorisation and recall, rather than probing student mastery of knowledge and their capacity to apply their knowledge to novel situations. The main advantage of open-book assessment practices is that, when designed effectively, they can encourage students to engage with the assessment task in a more critical and analytical way, furthering the development of higher-order cognitive skills and assessing conceptual understanding.

Open-book assessments are often considered to be an outward-facing ('authentic') form of assessment because students can use and apply their learning and skills as they might in a real-world scenario— engaging with, and grounding their assessment response in, a referenced evidence base rather than relying on knowledge recall alone. There are relatively few professional fields, for example, where students are required to complete a task without access to supporting resources—health professionals might check dosage titrations of medication; a lawyer might review previous cases and rulings; a policy advisor might be asked to summarize several longer documents into a 300 word précis document; an academic or researcher might consult scholarly journals and publications to situate their research in a field. Similarly, students in the health professions might check dosage titrations of medication against guidelines; a law student may be required to review previous cases and rulings to reach a judgement; a student of any disciplinary background might be asked to 'précis' several longer academic articles to produce a summary document.

In addition to encouraging higher order thinking, open-book assessments may also enhance **students' information literacy skills**, by requiring students to find efficient and effective ways of retrieving, selecting and evaluating suitable data and information from a range of sources. Open-book assessment practices can have a transformative effective on student learning. Assessment is no longer 'just' about students showing 'what they know'. Instead, students are required to show what they can 'do' with what they know. This is particularly important in a digital age where students have unprecedented access to a wealth of information.
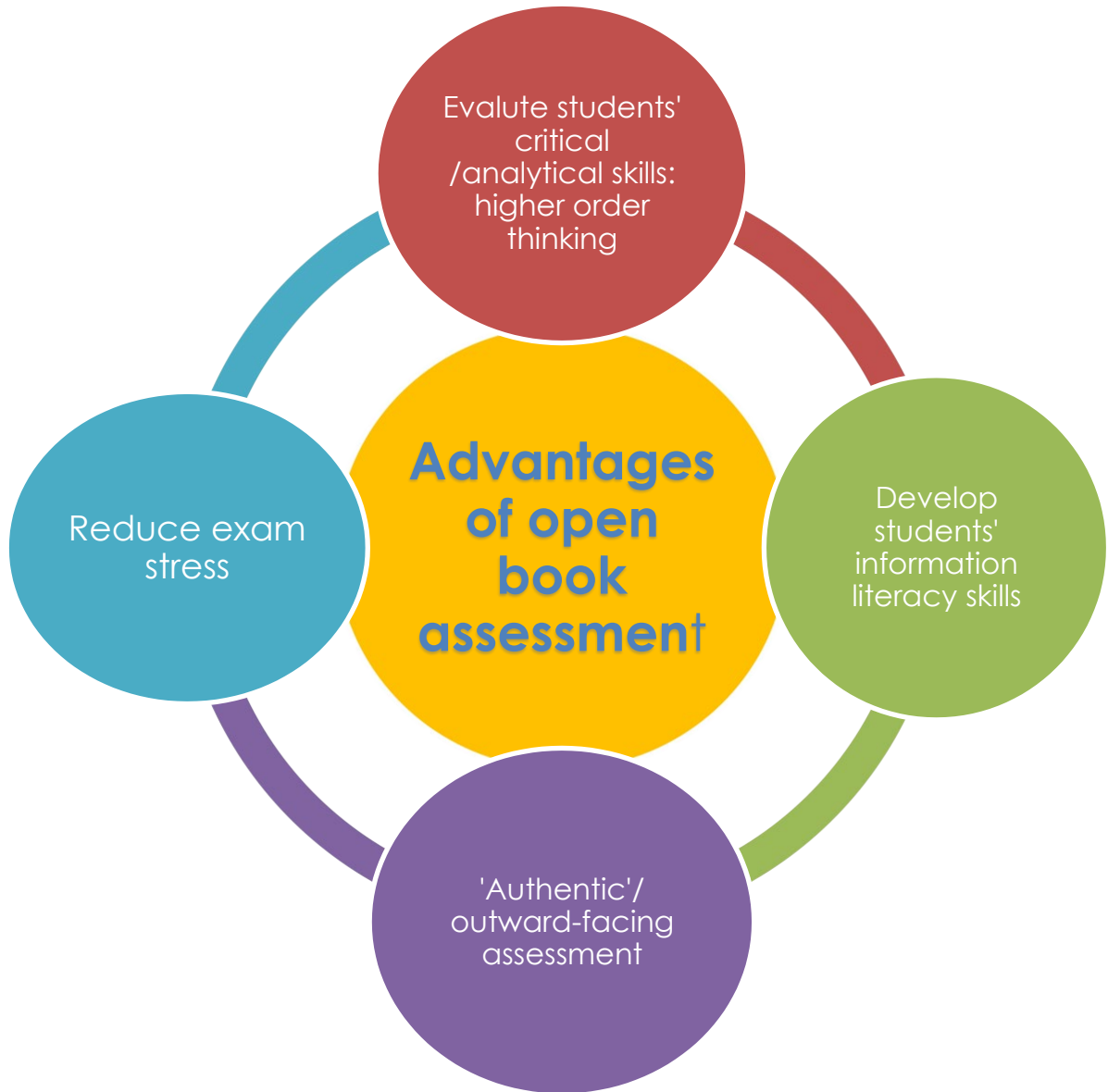
Figure 1: Advantages of open-book assessment

Key issues to consider when designing and implementing open-book assessments

Figure 2 summarises key issues to consider when designing and implementing open-book assessments. Further information on each of these issues, including prompting questions, is provided in the sections that follow.

Figure 2. Open-book assessment in a nutshell

Think about Constructive Alignment

When designing open-book assessments, as with any assessment, it is important that assessment tasks are constructively aligned to the module/programme learning outcomes (Biggs, 2003).

Start by reviewing the learning outcomes for the module concerned. Ask yourself:

- To which learning outcome(s) does this assessment align?
- Does the assessment task enable students to demonstrate that they have achieved the specified learning outcome(s)?
- What skills, knowledge or behaviours are students expected to demonstrate or apply?
- Does the assessment task probe/assess conceptual understanding, as opposed to testing knowledge or recall alone?

Keep in mind that an open-book assessment may not align to all of the learning outcomes for a module/programme—some outcomes may be assessed through a different assessment practice. The main thing is to be clear about which learning outcomes your open-book assessment seeks to measure. For more on learning outcomes and constructive alignment see the Academic Practice resource Writing Learning Outcomes' (Lahiff, 2006, last updated 2019).

> **Reflection Points**
> - To which learning outcome(s) does this assessment align?
> - Does the assessment task enable students to demonstrate that they have achieved these learning outcome(s)?

Consider student workload

Open-book assessments should not exceed the workload in a closed-book exam context. In general, it is often useful to align open-book assessments with ECTS weightings. When estimating the student workload for open book assessments keep in mind that:

- It is useful to think of the 'typical' student as much as is feasible. (See Appendix 1. ECTS: Workload and Assessment Considerations).
- The time taken to prepare, complete and submit the assessment should be included in the workload estimation for an open-book assessment.
- The time students will spend on preparing and writing up an open-book assessment can vary greatly—consider setting (firm) limits on the time students should spend on an assessment and ensure that these are clearly communicated to students.
- If you choose to use oral exams and 'Part B' questions as part of your assessment strategy to test mastery of content and thought ownership (for example, where you may ask students to evidence their calculations/justify their answer), the time taken to complete these should also be included in your workload calculations.

Support Academic Integrity in Open-book Assessment

Open-book exams may carry an increased risk of undesirable collaboration, collusion, or even plagiarism. Designing assessment practices that take into account the open-book paradigm is one of the most effective ways to mitigate against challenges to academic integrity. For more information about these mitigation strategies, see Appendix 2. Repurposing Face-To-Face Exam Questions for Open-Book Assessments.

NOTE: Increasing surveillance of an assessment does not automatically enhance the academic integrity of an assessment practice. Online proctoring tools do not offer a panacea to the challenges of open-book assessment.

Instead, you might wish to consider:

- **how best to foster a climate of learner self-regulation**, for example through the adoption of an honour statement and by making expectations explicit (discussed in Figure 2).
- **designing assessments which do not rely on recall-type tasks** as solutions to recall-style questions can be easily located online by students. A good rule of thumb is to minimize 'Google-ability': if students can find an answer using 'Google' or another search engine, it is likely unsuitable for open-book assessment.
- **applying word limits to discourage copy/pasting or the inclusion of irrelevant information**. (Tighter word limits can also increase cognitive engagement of students with a task.)
- **asking students to submit a personal artefact** as evidence of their personal engagement with the assessment submission: this could be in the form of an annotated bibliography, a screenshot of search histories, a picture of handwritten notes, calculation evidence or a brief personal reflection.
- **Moving to include extended 'Part B' questions as part of MCQ practices** in order to give students the opportunity to demonstrate ownership of their ideas/work.
- **Supporting existing assessment practices with supplementary follow-up mini-vivas**. These could be used for borderline cases or to test thought-ownership.
- **Requiring students to limit their use of external references**, for example to a baseline set of articles/sources.
- **Reviewing similarity reports** generated through the use of plagiarism detection software.

It is likely that in an online environment all assessment will involve some off-book behaviours, whether authorized or not. While online proctoring software or similar invigilation technologies are often proposed as a solution for upholding the academic integrity of remote and open-book assessment practices, they may raise significant privacy issues: students may still be able to access (online) materials or resources on alternative devices or 'off-camera'. Similarly, the use of plagiarism detection software does not 'evidence' plagiarism: it gives an indicator of 'originality' of a student's work, nothing more.

Reflection Points
- Does the assessment task/question uphold TCD academic standards?
- Has the task been designed to actively mitigate undesirable collaboration/collusion?
- Will you ask students to sign an honour statement?
- Have you considered using a plagiarism detection tool for submissions?

Communicate & Clarify Expectations

Open-book assessments may be new to your students and, as a result, they may not understand what is required of them or how to prepare for this type of assessment. Open-book approaches can foster scholarly interrogation of content and open up greater engagement with disciplinary knowledge, enabling students to move away from the 'rote learning' of content for traditional exams. To enable this, it is important to communicate clear expectations about the purpose and practices of open-book assessment and to clarify what students are expected to 'do' in advance of, and during, the assessment activity.

- Make sure that you and your students have a shared understanding of what 'open-book' means within the context of your module and the assessment. This may involve talking to your students about the purpose of open-book assessments and why they feature in the assessment diet.
- Challenge the common misconception that 'you don't have to study for open-book exams'. Are students aware of what they are required to do in advance of, during, and on submission of the assessment?
- Encourage students to create revision documents, content maps and 'cog sheets' that they can use to support themselves in (time-limited) open-book contexts.
- Ensure that the wording of the assessment task is clear and easy to understand: students should be able to clearly understand the instructions provided for the task as well as the process underpinning the task itself.
- Clarify with students which resources or materials they are encouraged to use or avoid. Remind students that plagiarism, whether intentional or not—such as by copying text verbatim from sources without acknowledgement—is still regarded as plagiarism in an open-book context.
- Consider affording students an opportunity to complete a formative open-book assessment (i.e. one which does not contribute to their final marks for a module/programme) to develop insight into the concept and practice of open-book exams.

Reflection Points
- Do you and your students have a shared understanding of what open-book means in the context of your module?
- Is it clear to students which resources /materials they are encouraged to use or avoid?
- Are clear assessment criteria available? Have these been shared with students in advance?

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The Practicalities of Open-book Assessment

If you are new to open-book assessment, particularly in a hybrid/online context, there are various practical considerations to keep in mind. All practical arrangements should be clearly communicated to students.

Consider creating a short video for students which explains the practical steps of access and submission, and publishing this within the VLE. See, for example, this instructional video produced by an academic at the University of Edinburgh: "Submitting your written exam answers to Learn using Adobe Scan".

When thinking about designing, administering and managing the open-book assessment process, you might consider the following questions:

- How will students complete their answers? Online or on paper?
- If the assessment is online, which digital tool(s) are you going to use to facilitate the open-book assessment? If you do this using the VLE, will you use the Assignment/Quiz tool?
- How and when will you 'release' the assessment? Might you, for example, use an adaptive release function in the VLE to align with the exam timetable?
- Are students clear on where/how they are to submit their assessments?
- Do you require the submission of an electronic document, and if so, in what format? For example, Word (.doc), Excel (.xls), PDF (.pdf) or other?
- Will you ask students to scan a handwritten document for conversion to electronic format? Will you ask students to submit one question at a time or all in one go? Keep the marking process in mind: who will be marking each submission?
- When it comes to assessing student submissions, do you intend for marking to be anonymous? Will you use online annotation tools? Where will you 'store' marks? (Remember that if you use VLE grading tools, students' grades should remain 'hidden' until after confirmation of their final grade.)
- Will you allow multiple submissions of the same assessment? For example, can students 'overwrite' a previous submission? While this can be useful, there will always be a student who will inadvertently upload the wrong file! This may need careful management post submission deadline.
- How will you facilitate access for external examiners?

Reflection Points
- Is your assessment accessible/inclusive?
- Have you considered which (VLE) tools you will use?
- Have you provided students with clear guidelines on how to submit?
- Does the wording of your questions make clear what students are required to do?

Remember: students do not universally have access to stable internet connections or quiet undisturbed workspace. Bear this in mind when deciding on time frames for assessment submission. Also, have you made reasonable adjustments, and ensured accessibility for, students with additional needs? **Trinity's Disability Service** can provide useful guidance in relation to the provision of exam accommodations in such circumstances.

Challenges of open-book assessment

Well-designed open-book assessments can counter the false perception shared by many students that open-book assessments are 'easier'. As with any assessment, clear marking guidelines are essential. Consider setting strict word limits to demand greater clarity and increase cognitive 'stretch' and, of course, develop clear marking rubrics. Open-book assessment can be particularly challenging when it comes to:

- designing challenging questions
- testing 'recall' effectively
- managing academic workload
- sustaining confidence in the exam process
- mitigating plagiarism
- clarifying assessment criteria with students (for example, ensuring shared understanding of assessment evaluation and 'fairness').

Designing Open-book Assessments

When designing an open-book assessment, think about which learning outcomes are best evaluated in an open-book format. Open-book assessments are particularly effective for probing and evaluating:

- conceptual understanding
- application or manipulation of knowledge through analysis and/or critical thinking
- synthesis, analysis or creation of knowledge
- problem solving/ evidence of calculation process
- interpretation or critique of sources or concepts
- creative and/or reflective thinking
- critical thinking.

Questions appropriate for the open-book paradigm require students to create, evaluate, analyse and apply knowledge, rather than simply locate and summarise information. This is often framed as 'higher-order thinking' when referenced against the different levels of Bloom's Taxonomy of Knowledge (see Figure 3 below).

Question formats that generally translate well to an open-book context are often scenario-based, application-based or case-based. These approaches require students to apply critical reasoning skills in response to a trigger scenario. For example:

- Design questions which require students to interpret or apply qualitative or quantitative data, evidence or frameworks within their discipline or field.
- Ask students to consider a scenario or case from the perspectives of a professional in their field/discipline. (This might include professional/patient/alternative perspectives, for example an expert advisor or key decision-maker). Such questions could replicate real-word scenarios, drawing on relevant industry regulations, legal or administrative issues, clinical or professional standards.
- Frame questions within the context of current 'real world' issues or topics, for example in policy or practice.

Assessments should be constructed in alignment with programme and module learning outcomes: consider what knowledge, skills or competences you are assessing.

Keep in mind that question phrasing also matters in assessment contexts. You may find Figure 3 useful as you reflect on how to frame questions in a way that enables students to demonstrate their achievement of learning outcomes.
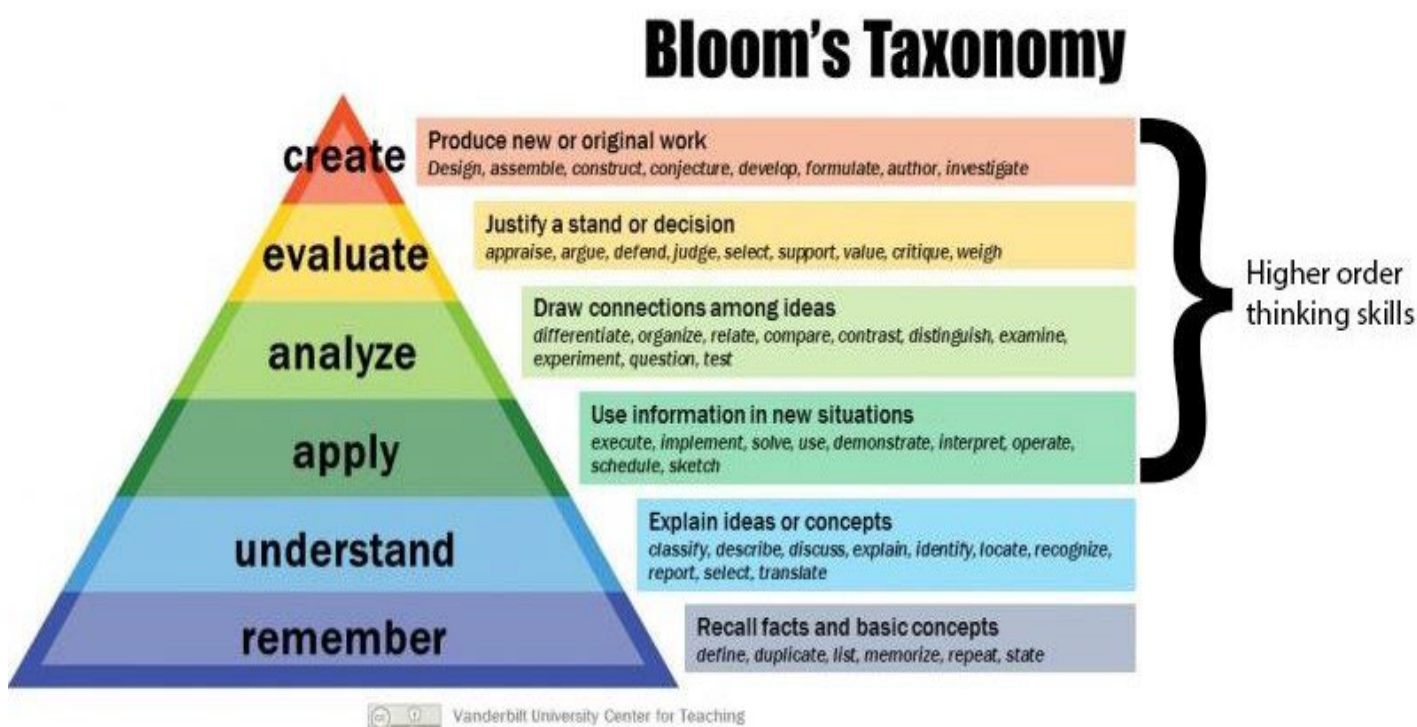
Figure 3. Bloom's Taxonomy. From Vanderbilt University Center for Teaching (https://commons.wikimedia.org/wiki/File:Blooms-Taxonomy-650x366.jpg), added labels by Academic Practice, https://creativecommons.org/licenses/by-sa/4.0/legalcode.

Appendix 2. Repurposing Face-To-Face Exam Questions for Open-Book Assessments also provides useful prompts when reflecting on how question design impacts on assessment practice. The appendix compares and contrasts considerations question framing for open-book and closed-book assessment paradigms drawing on previous assessment questions in use at Trinity.

Appendix 1. ECTS: Workload and Assessment Considerations*

(*Adapted from '<u>ECTS: Workload and Assessment Considerations</u>', Academic Practice, Trinity College Dublin.)

Assessment workload is typically based on how much time an average student invests in order to achieve a module's learning outcomes at threshold level. A module or course with 10 ECTS credits should have approximately twice the workload of a course with 5 ECTS.

This section aims to increase awareness of the relationship between the teaching, learning, and assessment workload and how these align with the ECTS value of a module.

At Trinity:
- Module sizes are limited to 5 and 10 ECTS, with 20 ECTS reserved for the capstone module only.
- Assessment load should be commensurate with ECTS size.

Student workload:
- 5 ECTS module = 125 hours of 'typical' student input
- 10 ECTS module = 250 hours of workload for a 10 ECTS module.

This workload estimation includes all teaching, learning (including self-study), practical lab work, continuous assessment, preparation for summative assessment, and the time taken to complete the assessment. It is important that assessment preparation should be factored into this workload allocation, although obviously this is not an exact science. Think of the 'typical student' as much as is feasible. When designing assessment for 5 and 10 ECTS-sized modules, take the estimation of preparation time for task into account in light of workload and mapping already conducted.

- In a situation in which a student is writing a c.1500 word essay under normative conditions, the 'physical' time to complete the essay in an exam situation might be one hour, but how long would the 'typical' Trinity student take to prepare for this essay? 10 hours? → 11 hours in total for the assessment
- Where a student is giving a 15 minute presentation in person, would a preparation time of five to six hours be reasonable? → six hours in total for the assessment
- In an exam requiring extensive calculations, the 'physical' time to complete this work under exam conditions might be three hours. How long would be reasonable self-learning to complete this successfully, perhaps 25-30 hours of preparation? → 28 – 33 hours in total for the assessment. For greater information on parity of assessment sizing, please review the TEP Resource on student workload.

Appendix 2. Repurposing Face-To-Face Exam Questions for Open-Book Assessments

The following table (adapted from Johnston & O'Farrell, 2020) outlines sample questions from across the disciplines which have been either modified from, or used in, previous exam sessions at Trinity. The questions listed here would typically have been 'approved' by externs for use in face-to-face, closed-book contexts, as part of standard procedures.

The purpose of this table is to prompt reflection on how to repurpose such questions for use in an open-book paradigm. The modifications suggested below prioritise the upholding of **academic integrity** when adapting questions for open-book contexts. They offer some suggestions, but they are neither exhaustive nor prescriptive.

Many of the modification strategies utilized here can be readily transferred to other disciplinary contexts—for example through the introduction of word-count restrictions, addition of 'Part B' questions, the addition of a student (personal) artefact, and the use of plagiarism detection reports which may indicate whether investigation of 'ownership' is merited.

Source Faculty: STEM (Science, Technology, Engineering, Maths)

STEM: Sample Exam Question 1

How is flux through glycolysis controlled?

Considerations when Repurposing as Open-Book	Possible modifications?
Can students 'google' the answer (i.e. does this only test recall of knowledge)?	Consider: • **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.

STEM: Sample Exam Question 2

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).)

Considerations when Repurposing as Open-Book	Possible modifications?
Compare/contrast style questions require students to differentiate and identify relevant information. • Can students source the information for each curve separately from web resources? • Might students be tempted to seek support from an essay mill/essay bank?	Consider: • **Adding in a strict word-count limit** (e.g. 800 words) to mitigate against copy/pasting from internet sources. • **Using plagiarism detection software** (e.g. TurnItIn via Blackboard) to generate similarity reports for submitted response. • **Asking students to upload a personal artefact** contextualising their response, e.g. an image/photograph of a student's hand-drawn curve.

STEM: Sample Exam Question 3

'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.

Considerations when Repurposing as Open-Book	Possible modifications?
Three proofs in three hours approach may not easily transfer to remote assessment. • 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?	Consider: • **Reducing number of questions** students need to answer. • **Requiring evidence of personal engagement,** e.g. screenshot/photo of calculations or sources consulted. • **Making explicit how long students should spend** on each question.

STEM: Sample Exam Question 4

List and describe four environmental conditions that challenge contemporary managers. Draw on appropriate material from the course to examine a (managerial or organisational issue of interest to you).

Considerations when Repurposing as Open-Book	Possible modifications?
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. • In the first part of the question, can students 'google' the answer to 'list and describe'?	Consider: • **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. • Asking students to include a **brief reflection** on why they chose the organisational issue of interest. (Make sure to revisit the wordcount for the first part of question to reflect extra workload.) • **Using plagiarism detection software** (e.g. TurnItIn via Blackboard) to generate similarity reports for submitted response.

STEM: Sample Exam Question 5

Questions: 2 of 3 in 90 mins. Exemplar question:
Compare and/or contrast [in situ and ex situ plant conservation] approaches.

Considerations when Repurposing as Open-Book	Possible modifications?
Question asks students to showcase and synthesise/evaluate their own knowledge gained over time. • Can students make use of an essay mill/essay bank to write their exam?	Consider: • **Adding in a strict word limit** (e.g. 800 words) to mitigate against copy/pasting from internet sources and to encourage students to be discerning in what they include in their response. • **Requiring an annotated bibliography** so students demonstrate where/how their 'knowledge' was acquired. • **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. *"Compare and/or contrast [in situ and ex situ plant conservation] approaches using specific examples of where such approaches are in place.."*

Source Faculty: AHSS (Arts, Humanities, Social Sciences)

AHSS: Sample Exam Question 1

PART ONE: Answer three out of four of the short essay questions;
e.g. *Define how Schein (1985) defines culture.*

Considerations when Repurposing as Open-Book	Possible modifications?
Three essays in three hours model may not easily transfer to remote open-book exam. Current 350 word limit on each short answer question (with excess words penalised) limits copy/pasting from internet sources. • How long is reasonable for a student to prepare and complete each essay?	Consider: • **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.

AHSS: Sample Exam Question 2

Part TWO: *MCQs.*

Considerations when Repurposing as Open-Book	Possible modifications?
• Have students answered the MCQ themselves? • Have students followed the calculation process for MCQ solutions correctly, but arrived at the wrong answer?	Consider: • **Randomising access to MCQ order** of questions or restricting the time window for completion. (This assumes a short time-window of student access to MCQ bank or online test). • **Requiring evidence of personal engagement,** e.g. screenshot/photo of calculations or sources consulted.

AHSS: Sample Exam Question 3

(French or any language)
Composez un texte argumenté (300 mots) pour répondre à l'une des questions suivantes:
- *Est-ce que voyager nous rend meilleur?*
- *La science se doit-elle d'être morale?*

Write a short text responding to one of these prompt questions:
- *Does travel foster personal growth?'*
- *Does science need to be ethical?*

*translation – authors' own, caveat lector!

Considerations when Repurposing as Open-Book	Possible modifications?
- 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?	Consider: **Acknowledging increased expectations** in depth/sophistication of student language where access to dictionaries etc. is assumed. **Using plagiarism detection software** (e.g. TurnItIn via Blackboard) to generate similarity reports for submitted response. - Inclusion of an '**honour statement'**/declaration of student integrity.

AHSS: Sample Exam Question 4

Answer four questions in three hours. Questions are in the style of: *'[Extended quote from source]'. Comment.'*

Considerations when Repurposing as Open-Book	Possible modifications?
Scenario-based question asks students to showcase and synthesise/ evaluate their own knowledge gained over time. Scenario-based question limits likelihood of receiving a 'Google-search-friendly' answer. - 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	Consider: **Using plagiarism detection software** (e.g. TurnItIn via Blackboard) to generate similarity reports for submitted response. **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.	

AHSS: Sample Exam Question 5

'The study of censorship is a powerful tool for analysing power and powerlessness in any given society'. Discuss.

Considerations when Repurposing as Open-Book	Possible modifications?
Requires synthesis of knowledge. • Can students make use of an essay mill/essay bank to write their exam?	Consider: • **Restricting reference list**, e.g. limiting students to lecture materials/notes or to a set of e.g. 10 pre-provided resources. • **Requiring students to provide an annotated bibliography** to emphasise personal ownership of content. • **Acknowledging increased expectations** in depth/sophistication of student response. • Asking student to answer question in the [context] of a current [situation]. • Asking student to answer question from, for example, the perspective of a speechwriter/public/politician/policy maker. • **Re-writing as a 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 a strict word limit** (e.g. 800 words) to mitigate against copy/pasting from internet sources.

AHSS: Sample Exam Question 6

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.

Considerations when Repurposing as Open-Book	Possible modifications?
• Can students 'google' solutions (e.g. is this testing recall alone)? • What are 'brief' notes in an open-book environment?	Consider: • 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.
- Asking student to answer question from, for example, the perspective of a speechwriter/public/politician/policy maker.
- **Re-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 SILC with [y]'s."*
- Could data from the survey be used to provide a stimulus for a scenario-based question?

Source Faculty: FHS (Health Sciences)

FHS: Sample Exam Question 1

Section 2: MEQs.
90 min exam; 3 questions to be answered.

Sample Q (multistage):
  (a) *Define public health practice*
  (b) *Give examples of differences between hospital practice, general practice, public health practice.*
  (c) *For 3 different categories of health information give examples using data of how health status differences between countries can be measured.*
  (d) *What are the characteristics of good public health policy development?*
  (e) *Give three examples of health inequities within countries.*
What is the 'vision' for healthy Ireland (2013-2025)

Considerations when Repurposing as Open-Book	Possible modifications?
Questions are drafted to assess learning from available lectures, web lectures, seminars, and course textbooks. • 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	Consider: • **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. • **Re-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;*

being down in a step-by-step manner?	*'how does the strategy for vision of healthy Ireland align with [x]?"* • **Re-writing 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.

FHS: Sample Exam Question 2

[Scenario describing an error in treatment].

Imagine you are [x] the [pharmacist/GP/OT etc]. Having reflected on the factors surrounding the error above:
   (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.

Your answer should refer in detail to the theoretical principles and strategies of risk management.

Considerations when Repurposing as Open-Book	Possible modifications?
Question focuses on application of knowledge. • 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?	Consider: • **Adding in a strict word limit** (e.g. 800 words) to mitigate against copy/pasting from internet sources. • **Adding in a Part 'B'** question, e.g. *"If you can only take 2 actions, what would they be and why?"* • **Requiring 3-4 references** to support student response. • **Using plagiarism detection software** (e.g. TurnItIn via Blackboard) to generate similarity reports for submitted response.

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