USM
ONLINE ASSESSMENT GUIDELINES

for
REMOTE TEACHING

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INTRODUCTION

The purpose of this guidebook is to facilitate and guide lecturers to embark on the best practices of online assessment at the Universiti Sains Malaysia (USM). This guidebook primarily consists of six chapters covering the principles of online assessment, namely formative and summative as well as the step-by-step practical examples for USM lecturers to adapt when developing and administering the examinations. The USM Online Assessment Committee hopes lecturers would be able to use this guidebook effectively in their efforts to convert the conventional face-to-face assessment to the recommended online assessment. The committee wishes everyone all the best in this new academic venture amid the current COVID-19 pandemic. These transitional, conventional-to-online efforts can be a new beginning towards promoting online education for both USM students and academic staff members in the near future.

Hodges, Moore, Lockee, Trust & Bond (2020) in their recent work argued that although researchers in educational technology have carefully defined terms over the years to distinguish between the highly variable design solutions that have been developed and implemented such as *distance learning*, *distributed learning, blended learning, online learning*, *mobile learning*, and others, but an understanding of the important differences has mostly not diffused beyond the insular world of educational technology and instructional design. They have also proposed a specific term for the type of instruction being delivered in these pressing circumstances: *emergency remote teaching*. The USM Online Assessment Committee has aligned its guidelines with the following framework by Hodges et. al., (2020):

In contrast to experiences that are planned from the beginning and designed to be online, emergency remote teaching (ERT) is a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances. It involves the use of fully remote teaching solutions for instruction or education that would otherwise be delivered face-to-face or as blended or hybrid courses and that will return to that format once the crisis or emergency has abated. The primary objective in these circumstances is not to re-create a robust educational ecosystem but rather to provide temporary access to instruction and instructional supports in a manner that is quick to set up and is reliably available during an emergency or crisis.

Together, we are hopeful that this guidebook can kick start and subsequently sustain uninterrupted learning and assessment experience for all our students especially during this period of uncertainty.

Well, enjoy reading and have fun with the new experience ahead.

CHAPTER 1

The Guiding Principles of Online Assessment

The Covid-19 pandemic has undoubtedly touched all aspects of human life. Education is no exception. In a lot of countries internationally educational institutions are forced to resort to full-time online teaching and learning to survive during periods of lockdowns and movement control orders. Faculty members, some with little or no experience in online teaching and learning, are finding themselves having to organise and run courses for their students. As with face-to-face teaching and learning, the issue of assessment might pose a problem to faculty members when they are designing their online courses. This chapter discusses the main principles of online assessment to help lecturers designing assessment.

Principle 1: Addressing accessibility issues

> In our current situation where students are dispersed throughout multiple localities with differing quality of IT infrastructure, the issues of availability and stability of the internet and suitable equipment should be foremost in our minds. Asynchronous assessment methods or tools which do not require real-time interactions should therefore be given priority when required.

Principle 2: Aligning assessment activities with the learning outcomes

> Constructive alignment is just as important in online assessment as in face-to-face assessment and therefore you have to ensure that your assessment tools and activities match your learning outcomes.

Principle 3: Creating authentic assessment tasks

> Authentic assessment tasks are considered as a more holistic assessment of student abilities. It is characterised by assessment tasks that are set in real-life contexts, cuts across multiple competencies and has multiple solutions.

Principle 4: Avoiding assessment of irrelevant skills

> Certain skills not directly related to your learning objectives, like keyboard typing skills and familiarity with a specific online assessment tool might unfairly disadvantage certain students, especially in timed assessments. Unless you specifically intend to assess such skills in your assessment, be aware of this when designing your assessment tasks.

Principle 5: Planning assessment according to student learning time (SLT)

> Planning assessment according to SLT ensures that students are well prepared for the online assessment and that the assessment load is appropriate.

Principle 6: Communicating with students regarding assessment matters

As with face-to-face teaching, communication regarding assessment needs to be clear and transparent. Students must be informed using text, audio or video regarding how the assessment relates to the learning objectives, the methods and criteria used (including rubrics and rating instruments) and when and how they can access their assessment results.

Principle 7: Employing multiple assessment methods

As with face-to-face assessments, do not rely on a single assessment tool for all your outcomes. Multiple types of online assessment methods and tools will support a more accurate assessment and is better able to assess the breadth and depth of student knowledge.

Principle 8: Encouraging continous reflections

As educators, you are encouraged to use data obtained from online formative assessment tasks to reflect on your own teaching and assessment practices.

Principle 9: Providing timely feedback

Perhaps the most critical element of online assessment is the provision of frequent, timely, sufficiently-detailed and constructive feedback. This kind of feedback is necessary to make online assessment tasks successfully influence learning.

Principle 10: Providing a well-spaced-out assessment schedule

Assessments should be well spaced out across your courses, taking into consideration the time students are reasonably expected to complete the assessment task and external factors such as important events in the calendar.

CHAPTER 2

Synchronous and Asynchronous Assessments

The online learning environments are usually divided into two categories synchronous and asynchronous.

a) **Synchronous learning**

Synchronous online learning involves learning in real-time *(both parties have to be online simultaneously)* such as chat, teleconferencing, videoconferencing, live-streaming lecturers and virtual classroom. This type of learning allows students to obtain immediate feedback from fellow students and instructors during the course.

Likewise, synchronous assessment involves assessment in real-time requiring both examiners and students to be online simultaneously, for instance online viva, online final year project presentation and real-time multiple choice questions.

b) **Asynchronous learning**

Asynchronous online learning allows learning to happen at students' own pace without real-time interaction (remote learning) with lecturers. Therefore, lecturers can provide materials for reading, lectures for viewing or listening (video and podcast), assignments for completing, and exams for evaluation, and students will have the ability to access and satisfy these requirements within a flexible time frame. Methods of asynchronous online learning include self-guided lesson modules, pre-recorded video content, virtual libraries, posted lecture notes, and exchanges across discussion boards or social media platforms.

Likewise, asynchronous assessment involves assessment at students' own pace without real-time interaction with examiners, for instance online essay, assignments and e-portfolio. Further examples are available in Chapter 6.

Applying the domains of learning with technology

When adding technology into instruction and curriculum, there is a need to add a taxonomy to help us think about how learning can happen using technology integration. Basically, there are three domains; Cognitive, Affective and Psychomotor.

Cognitive Domain

As for the cognitive domain in this context, Bloom's Digital Taxonomy (Churches, 2010) helps educators use technology and digital tools to facilitate student learning experiences and outcomes. For this reason, Table 2.1 explains the levels and includes matching examples of technology integration for teaching and learning based on synchronous and

asynchronous methods. However, the table is not comprehensive, more information can be accessed from Bloom's Digital Taxonomy 126 Power Verbs (Techthoughtstaff, 2017). Lecturers must tie the use of each tool to specific learning outcome (LO) and allow students to familiarise themselves with the assessment methods.

Table 2.1 : The cognitive learning outcomes and examples of assessment activities

Cognitive Domain	Assessment activities	
	Synchronous (real-time assessment)	Asynchronous (non real-time assessment)
Lower Order Thinking Skills **Remembering (C1)** : To recall or retrieve facts, basic concepts of previously learned information **Understanding (C2):** To explain ideas, concepts, or construct meaning from written material or graphics **Applying (C3):** To use information or concepts in new situations such as models, diagrams, or presentations	i. Standardized online quiz Platform/Apps: e-Learn@USM, Socrative, Quizlet, Quizizz, Kahoot!, Google Form ii. Group discussion, live video presentation (individual/ group) Platform/Apps: Microsoft Teams, Webex, Zoom iii. Online oral exam (viva voce and interview) Platform/Apps: Microsoft Teams, Webex, Zoom	i. Written assignment (e-poster, essay, mind-mapping, etc) Platform/Apps: e-Learn@USM, Google Form, Google Doc, Email, Blogs, Wiki, Padlet ii. Project assignment (lab report, progress report, etc) Platform/Apps: e-Learn@USM, YouTube, Google Doc, Padlet, Blogs, Evernote
Higher Order Thinking Skills **Analysing (C4):** To draw connections among ideas, concepts, or determining how each part interrelate to an overall structure or purpose **Evaluating (C5):** To justify a stand or decision; to make judgements based on criteria and standards through checking and critiquing	i. Presentation (case study, problem-based, task-based, project-based, etc) Platform/Apps: Microsoft Teams, Webex, Zoom ii. Group discussion, live video presentation (individual/ group) Platform/Apps: Microsoft Teams, Webex, Zoom	i. Written assignment (scenario-based, critical appraisal, literature review, reflective journal, etc) Platform/Apps: e-Learn@USM, Google Form, Google Doc, Email, Blogs, Wiki, Padlet ii. Project assignment (pre-recorded video, podcast, etc) Platform/Apps: e-Learn@USM, YouTube, Google Doc, Padlet,

Creating (C6): To produce new or original work; builds a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure.	iii. Online oral exam (viva voce and interview) Platform/Apps: Microsoft Teams, Webex, Zoom	Blogs, Evernote

Affective Domain

The affective domain includes how learners deal with things emotionally, such as feelings, values, appreciation, enthusiasms, motivations, and attitudes. Without face-to-face interaction, it is hard to observe students' reactions, behaviors, and expressions. In online learning, learning objectives related to the affective learning domain could become more challenging to formulate and measure than they are in traditional face-to-face learning. The reality is that not all affective learning objectives are measurable. However, given the importance of developing positive affective learning outcomes in education, we should look for the most feasible optimal methods to measure them. Table 2.2 describes how the affective domain may be implemented in online learning.

Table 2.2: The affective learning outcomes and examples of assessment activities

Affective Domain	Assessment activities	
	Synchronous (real-time assessment)	Asynchronous (non real-time assessment)
Lower Level of Committment **Receive Phenomena (A1)**: The lowest level where students passively pay attention e.g. Awareness, willingness to hear, selected attention. **Respond to phenomena (A2)**: Active participation on the part of the learners. Attends and reacts to a particular phenomenon. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding (motivation).	i. Online oral exam (viva voce and interview) Platform/Apps: Microsoft Teams, Webex, Zoom	i. Project assignment (lab report, progress report, etc) Platform/Apps: e-Learn@USM, YouTube, Google Doc, Padlet, Blogs, Evernote
Higher Level of Commitment **Value (A3)**: Assigns some value to an object, phenomenon or piece of information. This ranges from simple acceptance to the more complex state of commitment. **Organize (A4)**: Putting together different values, information, ideas; accommodating them with their own knowledge. Organizes values into priorities by contrasting different values, resolving conflicts between them, and creating a unique value system. The emphasis is on comparing, relating, and synthesizing values. **Internalize values (characterization) (A5)**: Have a particular value or belief that now influences their behavior and becomes a characteristic. The behavior is pervasive, consistent, predictable, and most importantly, characteristic of the learner. Instructional objectives are concerned with the student's general patterns of adjustment (personal, social, emotional).	i. Presentation (case study, problem-based, task-based, project-based, etc) Platform/Apps: Microsoft Teams, Webex, Zoom	i. Project assignment (pre-recorded video, podcast, etc) Platform/Apps: e-Learn@USM, YouTube, Google Doc, Padlet, Blogs, Evernote

*Notes: Affective domain assessment can be integrated in the cognitive-based assessment methods.

Psychomotor Domain

Practical skills play a vital role in a lot of courses and the real challenge is how to simulate these skills in online learning. For this purpose Simpson's Psychomotor Domain (Table 2.3) was used as the taxonomy. The psychomotor domain focuses on performing sequences of motor activities to a specified level of accuracy, smoothness, rapidity, or force. Underlying the motor activity is cognitive understanding which can be linked to Blooms. The psychomotor domain is best assessed in a face-to-face situation however in some scenarios these can be accessed using virtual laboratories, end-product and portfolios.

Table 2.3: The psychomotor learning outcomes and examples of assessment activities

Psychomotor Domain	Assessment activities	
	Synchronous (real-time assessment)	Asynchronous (non real-time assessment)
Lower Degree of Coordination **Perception (P1):** The ability to use sensory cues to guide motor activity. This ranges from sensory stimulation, through cue selection, to translation **Set (P2):** Readiness to act. Knows and acts upon a sequence of steps in a manufacturing process. The ability to perform specific actions by memory or following instructions. **Guided response (P3):** The early stages of learning a complex skill that includes imitation and trial and error. Adequacy of performance is achieved by practicing.	i. Online oral exam (viva voce, interview, online progress presentation) – e.g., systematic, proficiency, using right tool, etc Platform/Apps: Microsoft Teams, Webex, Zoom	i. Project assignment (lab report, progress report, etc) – e.g., systematic, proficiency, etc Platform/Apps: e-Learn@USM, YouTube, Google Doc, Padlet, Blogs, Evernote
Higher Degree of Coordination **Mechanism (P4):** This is the intermediate stage in learning a complex skill. The student should be able to execute the motor activity with some confidence. **Complex response (P5):** At this level, the learner must be able to perform the psychomotor activity with a high degree of precision	i. Presentation (case study, problem-based, task-based, project-based, etc) - communication skills, presentation skills, etc Platform/Apps: Microsoft Teams, Webex, Zoom	i. Project assignment (pre-recorded video, podcast, etc) – e.g., collaborative skills, digital skills, etc Platform/Apps: e-Learn@USM, YouTube, Google Doc, Padlet, Blogs, Evernote

Adaptation (P6): The learner must be able to modify the psychomotor activity for enhanced efficiency

Origination (P7): The learner would be able to come up with new movements to perform the motor activity. Learning outcomes emphasize creativity based upon highly developed skills | | |

*Notes: Psychomotor domain assessment can be integrated in the cognitive-based assessment methods. In certain settings for examples lab-based and clinical-based, there are limitations to assess it through online methods.

CHAPTER 3
Guidelines for Student Learning Time (SLT)

Student Learning Time (SLT)

3.1 Student Learning Time (SLT)

a) Time that students spend for learning teaching activities, involving

    I. Guided learning;
    II. Independent learning and;
    III. Assessment.

b) SLT depends on course unit / credit

- 1 Unit @ Credit: 40 Notional Hours
- Therefore : for 3 units /credits : 120 Hours

Table 3.1: Student learning Time (SLT) and Notional Hours

Units / Credits	Hours
2	80
3	120
4	160

3.2 SLT based on BPK

BPK component (Credit and Hours)

Table 3.2 BPK Component

3.3 Assessment component in BPK

Table 3.3: The components of examination and coursework in BPK

The percentange of the examination is 40% and the coursework is 60%. The details of the assessment SLT is provided in the Table 3.4 in relation to the assessment methods:
- Summative assessment time
- Formative assessment time
- Assessment preparation time

Table 3.4: Assessment preparation time for each assessment methods

10.	Penilaian berterusan (Ujian, Pembentangan, Persembahan, dsb) Nyatakan (Berserta pecahan jam): Pembentangan: 2 jam Persembahan: 2 jam	14
11.	Persediaan penilaian berterusan	12
12.	Penilaian (peperiksaan)	2
13.	Persediaan penilaian (peperiksaan) akhir	8
	JUMLAH SLT	**120**
	UNIT (JUMLAH SLT/40)	**3**

Item 10 refers to the SLT courseworks which are:

    i.   Presentation 1 – 2 hours

    ii.   Presentation 2 – 2 hours

Item 11 refers to the preparation time for the courseworks that is 12 hours

SLT for the coursework : Coursework time + Preparation time for the course
                          :   4 hours   + 12 hours
                          : 16 hours

Item 12 refers to the examination time that is 2 hours

Item 13 refers to the preparation time for the examination that is 8 hours.

SLT for the examination : Examination time + Preparation time for the examination
                          :   2 hours   + 8 hours
                          : 10 hours

Total SLT for assessment : **SLT for the coursework** + **SLT for the examination**
                          :   16 hours   + 10 hours
                          : 26 hours

3.4 General guidelines for SLT by assessment methods

The following Table 3.5 summarises the estimated SLT for various assessment methods.

Table 3.5: The SLT for different assessment methods

Assessment Methods	Time (hour)		SLT (hour)
	RT/NRT (a)	Preparation	
Writen assigment (1000 words) e.g., lab report, case report, etc i. if written assignment is about 500 words, SLT is 2.5 hours (500/1000 x 5 hours) ii. if written asignment is about 1200 words, SLT is 6 hours (1200/1000 x 5 hours)	-	-	5
Project assignment e.g., pre-recorded video, podcast, etc	1	4	5
Online oral examination e.g., interview, oral presentation, viva voce, etc	1	3	4
Online presentation e.g., final year project presentation, progress presentation, etc	1	3	4
Mutliple Choice Question (MCQ)	1	3	4
Online Quiz	1	1	2

RT: Real-time; NRT: Non real-time; SLT: Student Learning Time

CHAPTER 4
Conversion of face-to-face into online assessment: A case study

The guidelines on the conversion of face to face to online assessment based on a real course

STEP	EXAMPLES	
	OPTION 1: 100% CW	**OPTION 2: 80% CW, 20% Exam**

#1 List out the assessment methods by learning outcomes (cognitive, psychomotor, affective) based on BPK	**BPK: Item 9. The assessment distribution:**
	 i. Examination - 60%:
	     - MCQ - 25% (C2)
	     - Essay - 35% (C4)
	
	 ii. Coursework - 40%:
	     - Kertas cadangan penyelidikan – 20% (C5)
	     - Pembentangan 1 – 10% (P4)
	     - Pembentangan 2 – 10% (A3)
	
	 Distribution by learning domains
	 i. Cognitive - 80%
	 Exam: MCQ (25% - C2), Essay (35% - C4)
	 CW: Kertas Cadangan Penyelidikan (20% - C5)
	
	 ii. Pychomotor - 10%
	 CW: Pembentangan 1 (10% - P4),
	
	 iii. Affective - 10%
	 CW: Pembentangan 2 (10% - A3)	

#2 Calculate the Student Learning Time (SLT) of each assessment method by examination and coursework *(refer to BPK for the details)*	**BPK: JADUAL MASA PEMBELAJARAN PELAJAR (SLT)** **Total SLT for EXAM = 11 hours** i. MCQ = 45 minutes (0.75 hour) ii. Essay = 75 minutes (1.25 hour) iii. Exam preparation = 9 hours **Total SLT for CW: 18 hours** i. Presentation 1 (face-to-face) = 1 hour ii. Presentation 2 (face-to-face) = 1 hour iii. Research Proposal (2000 words) = 10 hours iv. Preparation for two presentations: 6 hours **The total SLT for Assessment = 29 hours** i. Assessment time (face-to-face) = 4 hours ii. Assessment time (non-face-to-face) = 10 hours iii. Preparation time for assessment = 15 hours	

STEP	EXAMPLES	
	OPTION 1: 100% CW	**OPTION 2: 80% CW, 20% Exam**
#3 Convert the exam to the coursework according to the desired assessment option based on SLT. **Choose alternative online assessment that fit the purpose of the original assessment method. For examples, i. To assess C4 (application), instead of essay, we can replace with Critical Appraisal Essay as an assignment that can be submitted through online. ii. To assess C2 (understanding) instead of MCQ, we can use Online Viva for the examination.	**i. Examination = 60%** - MCQ & Essay = 2 hours - Preparation time = 9 hours - Learning outcomes = C2 & C4 The proposal for converting the 60% examination to coursework without losing SLT and covering learning outcomes: Cognitive – C4 (Application) - Critical Appraisal Essay (2000 words) = 10 hours Cognitive – C2 (understanding) - Online Quiz (20 questions) = 1 hour (0.5 hour quiz and 0.5 hour preparation) **ii. The existing 40% coursework is maintained but done online.**	**i. Examination = 60%** - MCQ & Essay = 2 hours - Preparation time = 9 hours - Learning outcomes = C2 & C4 The proposal is to reduce examination from 60% to 20% and convert the 40% exam to coursework. Hence, a two-third of SLT will be converted into coursework. In this case the two-third of 120 minutes (2 hours) examination is converted into coursework (80 minutes and 6 hours preparation time), while remaining 40 minutes (plus 3 hours of preparation) is maintained for examination. The following is conversion examples: **Examination: 20%** Cognitive – C2 (Understanding) - Online Viva = 1 hour (+ 3 hours preparation time) **Coursework: 40%** Cognitive – C4 (Application) - Critical Appraisal Essay (1500 words) = 7 hours **ii. The existing 40% coursework is maintained but done online.**
#4 Decide the distribution of the revised/modified assessment methods *Online examination to assess the same learning outcome* *Additional assignments* *The existing assignments* *The weightage redistribution based on the expert judgement (lecturers)*	**CW: 100%** i. Critical Appraisal Essay (C4) - 20% ii. Online Quiz (C2) – 10% iii. Kertas Cadangan Penyelidikan (C5) – 30% iv. Pembentangan 1 (P4) – 20% v. Pembentangan 2 (A3) – 20%	**Exam: 20%** i. Online Viva – 20% **CW: 80%** i. Critical Appraisal Essay (C4) - 20% ii. Kertas Cadangan Penyelidikan (C5) – 30% iii. Pembentangan 1 (P4) – 15% iv. Pembentangan 2 (A3) – 15%

STEP	EXAMPLES	
	OPTION 1: 100% CW	**OPTION 2: 80% CW, 20% Exam**
#5 Write down the revised/modified assessment methods	The revised/modified assessment: Peperiksaan : **-** Kerja Kursus : **100%**	The revised/modified assessment: Peperiksaan : **20%**

OPTION 1: 100% CW

	Jenis	%
(i)	Kertas cadangan penyelidikan	30%
(ii)	Critical appraisal	20%
(iii)	Pembentangan 1 (online)	20%
(iv)	Pembentangan 2 (online)	20%
(v)	Online Quiz	10%

OPTION 2: 80% CW, 20% Exam

	Jenis	%
(i)	Online Viva	20%

Kerja Kursus : **80%**

	Jenis	%
(i)	Kertas cadangan penyelidikan	30%
(ii)	Critical appraisal	20%
(iii)	Pembentangan 1 (online)	15%
(iv)	Pembentangan 2 (online)	15%

STEP	OPTION 1: 100% CW	OPTION 2: 80% CW, 20% Exam
#6 Communicate the modified/revised assessment methods to students upon approval.	Whatsapp/email/call/send letter/etc to inform the changes in the assessment practices.	Whatsapp/email/call/send letter/etc to inform the changes in the assessment practices.

CHAPTER 5

Procedures and guidelines for online exam vetting and online examination

1. This procedure is applicable for courses that will be converted into a maximum of 20% exam work. For example, a 40-60 course (40% coursework and 60% final exam) to be converted to 80-20 course (80% coursework and 20% exam).

2. It is required that the final exam and its converted-coursework components be vetted accordingly. Due to the current COVID-19 situation, the vetting process needs to be carried out digitally (online).

3. The current USM's Standard Operating Procedure for examination vetting which involves these documents still apply:

   a. Vetting forms:

      i. Part A: Test Specification Table (*Jadual Spesifikasi Ujian*)

      ii. Part B: Vetting Panel Checklist (*Senarai Semak Pemeriksaan*)

   b. Family Relationship Declaration Form (Bora*ng Perakuan Kekeluargaan*)

   c. Exam Confidentiality Declaration Form (*Borang Perakuan Kerahsiaan Peperiksaan*)

   d. Flow chart of the Examination Vetting Process prepared by USM Examination Section

This chapter discusses two aspects related to assessment activities, i.e., Exam Vetting via electronic means and the Online Examination.

PART I: EXAM VETTING VIA ELECTRONIC MEANS

Exam vetting via electronic means can be carried out in two approaches, either through Offline Exam Vetting or Online Exam Vetting.

A) Offline exam vetting

Offline exam vetting means the vetting session is to be done offline, in which the exam paper in digital version is to be distributed to the vetting panel members. The sharing of this document will be done through e-mail.

Three steps are required in performing this offline exam vetting:

1. **Encrypt the file**
   If the exam paper document is to be shared digitally to the vetting panel members, we have to ensure its security, safety and confidentiality. Sharing through e-mail, for example, is not secure and safe enough. Therefore, the file needs to be password-protected and encrypted.
   The steps to encrypt and password-protect the document are available in **Appendix A**.

2. **Conduct the vetting offline**
   The vetting session can be carried out in offline mode. Here, the document – after it is encrypted and password-protected, is shared to the panel members through e-mail.
   a) The exam paper document and the Vetting Forms are shared to the vetting panel members through e-mail.
   b) Each panel member will access the exam paper document. In order to open the file, the password needs to be shared to them.
   c) Each panel member will provide his/her comments (preferably using the Review, New Comment feature in MS Word).
   d) The document is then submitted to the panel chair to gather all the comments provided by the panel. The panel chair also needs to fill in the Vetting form (Part B: Vetting panel checklist)
   e) Both the exam paper document and the vetting form will then be shared again to the panel members to verify their collective comments and to obtain their consensus/agreement.

f) Once the agreement is obtained, the course coordinator/manager will make the necessary changes and submit to the panel chair. The panel chair will verify the changes and submit the final version to the assistant registrar for the subsequent administration stages.

3. Save the two versions of the document

For audit purposes, two versions of the exam paper need to be prepared.

  i) The original (draft) version with the comments by the panel members (from 2d above)

  ii) The final version of the exam paper.

In addition, these four documents are also to be kept for audit exercise:

  a. The completed Vetting form (from 2d above)

  b. The Exam Confidentiality Declaration Form (*Borang Perakuan Kerahsiaan Peperiksaan*)

  c. The Family Relationship Declaration Form (Bora*ng Perakuan Kekeluargaan*)

  d. The flow chart of the vetting process

In other words, all these six documents must be signed digitally and are kept in a folder (separated from the course file) for audit purposes.

B)   Online exam vetting

The exam vetting can also be done online, and synchronously. The vetting session is to be carried out using teleconference or online meeting software/application such as Zoom, Microsoft Team, Cisco Webex, etc.

 Steps in performing this online exam vetting:

1. Options for sharing the document and editing it simultaneously

  a. If each vetting panel member is allowed to edit the document simultaneously during the online meeting, the file needs to be uploaded to Google Doc (or any other cloud-based file sharing and file editing software).

  b. If only one member is allowed to edit the document, then he/she will open the file in MS Word (track changes must be on) and perform the editing during the online meeting session.

2. Use teleconferencing or online meeting software / application such as Zoom, Microsoft Team, Cisco Webex, etc.

  a. During this session, all panel members will meet online at the same time to vet the exam paper.

  b. Depending on the option taken (Option [1a] or Option [1b] above), the comments from the team members are gathered collectively during this session.

c.   Also, during this session, the panel members are required to evaluate the quality of the exam paper. The exam vetting checklist (in Part B of the Vetting Form) needs to be completed.

3. Two versions of the exam paper are to be prepared

    a. Similar to offline exam vetting, the exam paper needs to be saved in two versions.

        i)   The original (draft) version with the comments by the panel members during the vetting
        ii) The final version of the exam paper.

    These two versions are needed for course audit purposes

    a. In addition, these four documents are also to be prepared for audit exercise:

        i.   The completed Vetting form

        ii.   The Exam Confidentiality Declaration Form (*Borang Perakuan Kerahsiaan Peperiksaan*)

        iii. The Family Relationship Declaration Form (Bora*ng Perakuan Kekeluargaan*)

        iv.   The flow chart of the vetting process

In other words, all these six documents must be signed digitally and are kept in a folder (separated from the course file) for audit purposes.

PART II: ONLINE ASSESSMENT (FINAL EXAM)

The conversion of the Exam Work component to the Course Work component needs to be carried out carefully (an example of this conversion is discussed in Chapter 4). If the course coordinator/manager attempts to convert the 40-60 course (40% coursework and 60% final exam) to 80-20, the following issues must be considered:

a. Course Learning Outcomes (CLO) and topics to be involved;

b. the coverage of content depends on the Test Specification Table (JSU).

c. the type of coursework activities to be introduced/added to replace the exam work component;

d. the duration/time (SLT) for the online final exam;

e. number of assessment items depend on the assessment time allocated to that the specific method. For instance, for mutliple choice questions (MCQs), 1.5 to 3 minutes per question

For the Online Assessment (Final Exam), several guidelines are recommended:

The two types of exams are: (i) written exam, and (ii) viva voce (oral exam).

(i) written exam

Written exam requires the students to sit-in the exam online. To do this, the time of the exam session has to be fixed, in which all registered students are required to be online. This can be done in the Learning Management System environment, i.e. eLearn@USM (elearning.usm.my).

1. identify the type of exams

For online assessment, two common types of exams are available. Depending on the situation and needs of the course, i.e., CLOs, the course coordinator / manager needs to decide which type of exam that is suitable.

There are two types of written exams:

a) Closed-book exam

Usually, in a closed-book exam session, the answers to the items/questions can be found in the textbooks or other resource materials. Therefore, the questions must be developed according to Bloom's Revised Taxonomy.

b) Open-book exam

Unlike closed-book exams, an open-book exam usually involves items which require higher-order thinking skills (HOTS) i.e, Analyzing, Evaluating and Creating (according to Bloom's Revised Taxonomy). Essay items that assess HOTS are commonly used in an open-book exam.

2. Identify the type of exam questions

The types of exam items should be based on the level of taxonomy in the course learning outcomes (CLOs).

	Types of exam items/questions	Examples	Note
1	**Select Response** *Students choose or 'select' an answer from a selection provided*	• True-False • Multiple Choice Questions (MCQ) • Matching	These types of items are usually used to assess facts, understanding of ideas and application of principles
2	**Constructed Response** *Students construct or 'supply' their own response.*	• Essay • Short answer • Fill-in-the-blank • Sentence completion	**Essay** items usually assess higher order thinking skills such as Analyzing, Evaluating and Creating. Not only it assesses students' understanding of ideas, it will also assess their ability to formulate an argument, support it with ideas and evidence, and formulate a conclusion. However, other types of items involving short answer, fill-in-the-blank or sentence completion usually involve lower order thinking skills (LOTS)

3. Recommendations to minimise cheating attempts

Here are some suggestions to minimize the potential cheating among the students during the exam session:

i.   If the examination session involves students currently in other countries, the time differences with Malaysia need to be considered. It is highly recommended that the students sit in the same exam session.

However, if the exam is to be conducted separately for them, then it is suggested that at least two sets of questions be prepared. The first set is meant for the main group (in which the majority of the students can sit for the exam at the same time), while the second set of questions for the students in other countries with a huge time difference (such as from Europe, American continent, Africa or Middle East). It is strongly recommended that the students from this second group sit for the exam in one single session. It is very important that the two sets of questions are measuring the same CLOs.

ii. To avoid the possibility of students assisting each other (in remote rooms) during the exam session, one solution is to have the questions set in random order. This can be done in the Learning Management System setting. In addition, the possible answers for the Multiple Choice Questions can also be made in random order.

iii. Another possibility to minimize the potential sharing and cheating among the students is to practice the open-book exam. As the open-book exam usually involves HOTS questions, students require more cognitive effort to analyse, synthesize, evaluate and construct their own responses.

iv. It is also strongly recommended that several sets of questions are developed and randomly assigned to the students to minimize potential cheating and sharing of answers.

Further readings for planning and conducting online assessment:
i.   Online Assessment Platform White Papers (strongly recommended)
https://www.eklavvya.in/WhitePaper.aspx
ii. Best Practices for Delivering Online Tests and Quizzes
https://uvacollab.screenstepslive.com/s/help/m/assessments/l/613778-best-practices-for-delivering-online-tests-quizzes
iii. Five guidelines for developing good online assessments
https://elearningindustry.com/developing-good-online-assessments-guidelines
iv. Learner assessment in online courses: Best practices and more
https://www.learnworlds.com/learner-assessment-best-practices-course-design/

(ii)   Viva voce (Oral Exam)

Viva voce is another option for the final exam. Its purpose is to replace the online written exam which requires a specific time for all students. This session also serves to complement the following purposes:

    i.   Confirming student understanding and defending it verbally.

    ii.   Demonstrating the student's own work such as case study, final-year project, etc.

    iii.   Investigating non-cognitive abilities such as communication skills, ethics and personal values, etc., in relation to the intended learning outcomes.

The following are the types of online viva:

    i.   One-to-one online viva – it means one examiner to one student viva.

    ii.   One examiner to a group of students online viva – it means one examiner to more than one student (it is recommended maximum of five students per group viva).

    iii.   A panel of examiners to one student online viva – it means more than one examiner (it recommended maximum of five examiners) to one student

    iv.   A panel of examiners to a group of students online viva – it means more than one examiner to more than one student.

The following are the recommended procedures to conduct an online viva:

    i.   Determine the intended learning outcomes to be assessed.

    ii.   Develop an assessment rubric for the online viva that fit with the learning outcomes (refer to **Appendix B** for reference on developing authentic assessment rubric).

    iii.   A series of questions to gauge student ability should be developed to ensure the consistency of the online assessment.

    iv.   Determine the duration of online viva (the time required depends on the type of online viva and SLT).

    v.   Set a schedule for the online viva.

    vi.   Send an invitation to the student for the online viva session.

    vii.   If more than one examiner is involved in the online viva, calibrate the expert judgment through discussion prior to the online viva session.

    viii. Record the online viva session for internal quality assurance.

    ix.   Send the recorded online viva and mark to the examination/academic office at PTJ.

CHAPTER 6

Creating Assessment through eLearn@USM Platform

eLearn@USM as Assessment Platform

The eLearn@USM platform offers various assessment tools that can be used both formatively and summatively. The Quiz activity module allows users to design and build quizzes consisting of a large variety of question types, including multiple-choice, true-false, short answer and drag and drop images and text. There are currently 15 question types that are available to choose from when designing assessment. Out of these 15, the Essay type needs manual marking, whereas the other 14 is auto-marked by the system. Question types range from the MCQ (multiple choice questions) or True/False, right down to more complex options like Calculated and Embedded answers. Questions can also be set visually like Drag and drop into image.
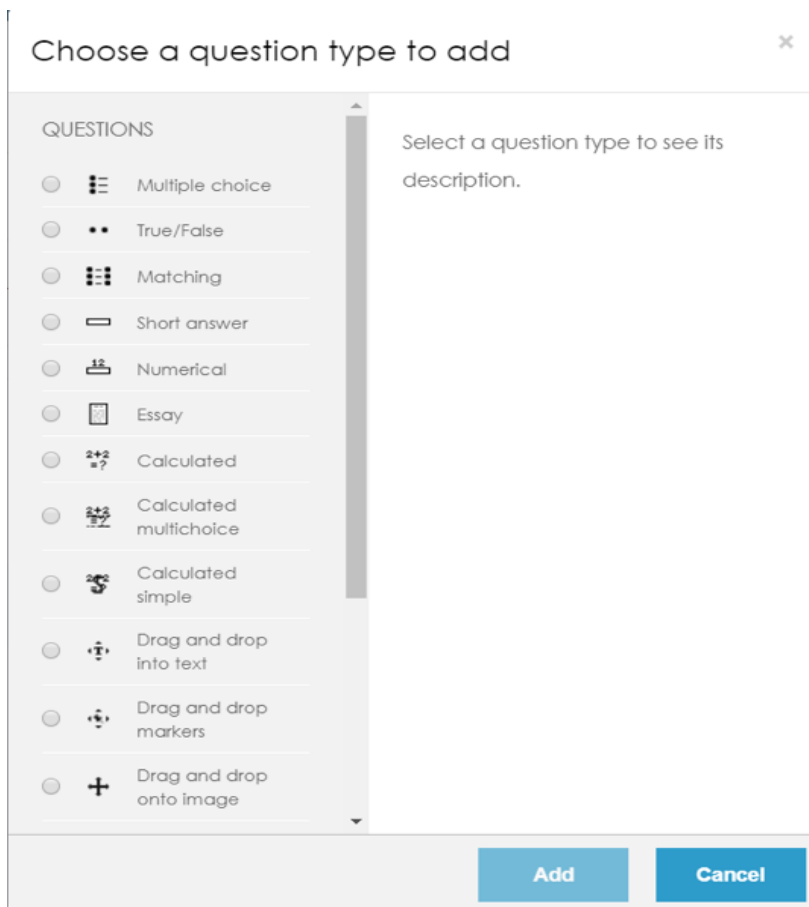

Figure 6.1: Types of questions in Quiz Module in eLearn@USM

To start adding questions for assessment, add an activity and choose Quiz in the elearn@USM (Figure 2). These questions are kept in the Question bank and can be re-used in different quizzes.
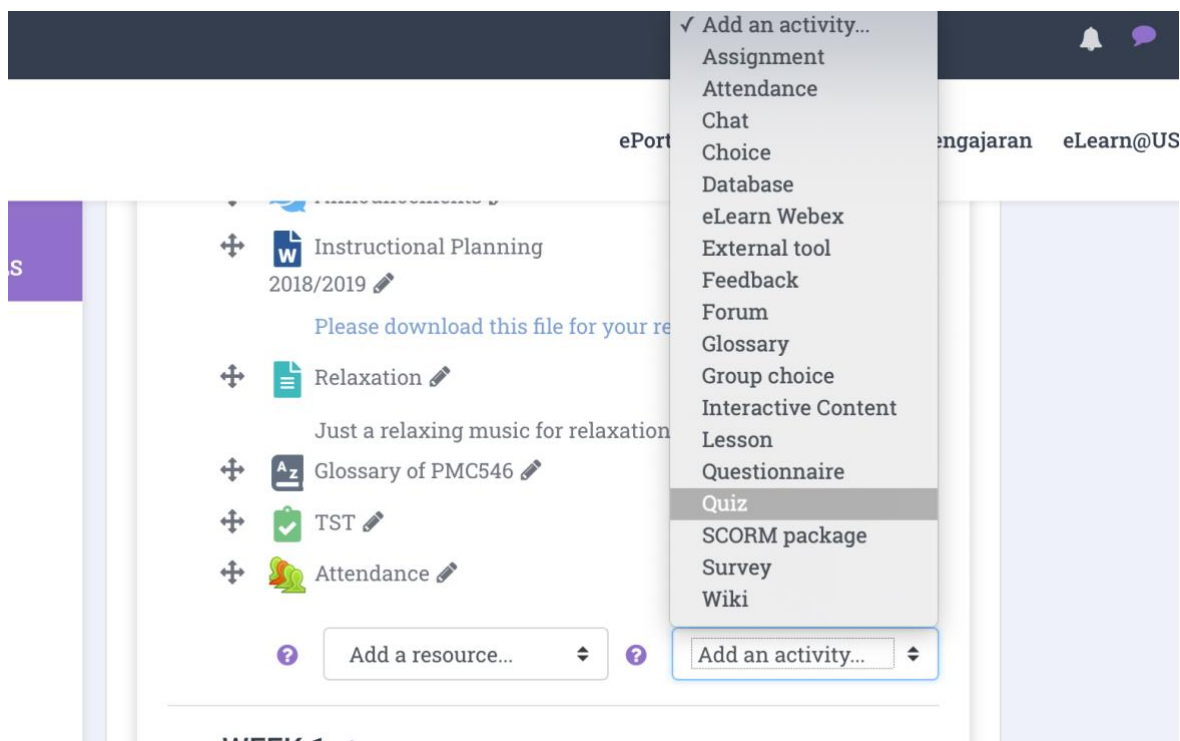

Figure 6.2: Adding Quiz for Summative and Formative Assessment

eLearn@USM provides a lot of flexibility in creating different question types. Each question can also be set according to suitability and needs of the educator. It is encouraged that questions are varied and more than 1 type to be used in a single session. Using the auto-marked questions frees the educator from having to manually go into the system to review students' answers. The quiz could be made useful to benefit student learning. Educators should as much as possible design the feedback input so that students can gain learning even when answering quizzes and exams online. The key to good and useful feedback is not to say 'wrong, try again' but to give an explanation why the answer might be wrong and to encourage students to rethink their answers.

Types of Questions in eLearn@USM Module

1) Multiple Choice question

eLearn@USM provides teachers with a lot of flexibility in creating this common question type. You can create single-answer and multiple-answer questions, include pictures, sound or other media in the question and/or answer options (by inserting HTML) and assign weights to individual answers.

2) True/False question

A student is given only two choices for an answer in this kind of question: True or False. The question content can include an image or html code. When feedback is enabled, the appropriate feedback message is shown to the student after the answer. For example, if the correct answer is "False", but they answer "True" (getting it wrong) then the "True" feedback is shown.

3) Matching question

Matching questions have a content area and a list of names or statements which must be correctly matched against another list of names or statements. For example "Match the Capital with the Country" with the two lists "Canada, Italy, Japan" and "Ottawa, Rome, Tokyo". In the Quiz Module, each match is equally weighted to contribute towards the grade for the total question.

4) Short answer question

In a short answer question, the student types in a word or phrase in response to a question (that may include an image). Answers may or may not be case-sensitive. The answer could be a word or a phrase, but it must match one of your acceptable answers exactly. It's a good idea to keep the required answer as short as possible to avoid missing a correct answer that's phrased differently.

5) Numerical question

From the students' perspective, a numerical question looks just like a short-answer question. The difference is that numerical answers are allowed to have an accepted error. This allows a fixed range of answers to be evaluated as one answer. For example, if the answer is 30 with an accepted error of 5, then any number between 25 and 35 will be accepted as correct.

6) Essay

The essay question type provides the option of answering by uploading one or more files and/or entering text online. (For longer essays, text or file uploads, you may wish to consider using the Assignment activity rather than this question type.) Essay questions are created in the same way as other quiz question types. The difference is that essay questions have to be marked manually, and students will not get a final grade until the teacher has marked their essays. In eLearn@USM, the copy & paste features for essay questions can be made disabled by to decrease the possibility for cheating during online assessment.

7) Calculated

Calculated questions offer a way to create individual numerical questions by the use of wildcards (i.e you can use common variables names as x , y enclosed in curly braces to create the wildcards {x} and {y}) that are substituted with random values when the quiz is taken. For example, if you want to create a large number of "Calculate the area of a rectangle" problems to drill your students, you could create a question with two wildcards (i.e. {base}, {height} created from the common base, height variable names) and put in the "Correct Answer Formula=" input field {base} * {height} (* being the multiplication sign).

8) Calculated multichoice questions

Calculated multichoice questions are like multichoice questions with the additional property that the elements to select can include formula results from numeric values that are selected randomly from a set when the quiz is taken. They use the same wildcards as Calculated questions and their wildcards can be shared with other Calculated multichoice or regular Calculated questions. The main difference is that text and the formula can be included in the answer choice as {=…}.

9) Simple calculated questions

Simple calculated questions offer a way to create individual numerical questions whose response is the result of a numerical formula which contain variable numerical values by the use of wildcards (i.e {x} , {y}) that are substituted with random values when the quiz is taken. The simple calculated questions offer the most used features of the calculated question with a much simpler creation interface.

10) Drag and drop into text question

A drag and drop question type where missing words have to be dragged into gaps in a paragraph of text.

11) Drag and drop markers question

This question type allows students to drop markers onto an area on a background image. Drag and drop markers questions differ from Drag and drop onto image question type in that there are no predefined areas on the underlying image that are visible to the student.

12) Drag and drop onto image question

This question type allows students to drag words, images or both from a list and drop them into pre-defined gaps on a base image.

13) Embedded Answers (Cloze) question

Embedded answers (Cloze) questions consist of a passage of text (in ELearn@USM format) that has various answers embedded within it, including multiple choice, short answers and numerical answers. There was no graphical interface to create these questions within your ELearn@USM site – you need to specify the question format using the text box or by importing them from external files. However, the flexibility of the Cloze question type is hard to equal and despite the minor coding that you need to create the questions, it has great worth in the ELearn@USM Quiz.

14) Random Short-Answer Matching question

From the student perspective, the Random Short-Answer Matching question looks just like a Matching question. The difference is that the sub-questions are drawn randomly from the Short Answer questions in the current category (including or not subcategories from the current category). After an optional introduction, a student is presented with two or more sub-questions, each with a drop-down menu box opposite listing the same number (or fewer if several sub-questions have the same answer) of available answer options. Students must select an answer option to match each sub-question.

15) Select missing words question

This is very similar to the Drag and drop into text question type, but uses drop-down menus in the text instead of drag-boxes. This works well where the question text is very long and you would have to scroll a lot to do drag and drop.

Setting-up Question in eLearn@USM

1. Select the question category.
2. Give the question a descriptive name. This is needed to track the questions later so it is good to give a name related to the topics being assessed. The name will be used in the question lists on the quiz editing page or in the lesson as a page title. It will not be shown to the students, so you can choose any name that makes sense to you and possibly others who are teaching the same course.
3. Create the question text. If using the HTML Editor, the question can be formatted just like a word processing document.
4. Select an image to display to add a picture to the question. The available images are those that have been uploaded to the **main** eLearn@USM files area (they cannot be in folders). For the student, the image appears immediately after the question text and before the answer options.
   - Alternatively, if the HTML editor can be used to create the question text, you can click on the image icon. This will pop up the Insert Image window. An image can be uploaded into the files area from this window, or the URL of an image on the web can also be added. If a file has been added to the files area, click the name of the file after uploading it to insert the link into the URL text entry at the top of the screen. Then click OK.
5. Set the 'default question grade' (i.e. the maximum number of marks for this question).
6. Set the 'Penalty factor'.
7. General feedback can also be added (optional). This is text that appears to the student after he/she has answered the question.
8. Choose whether students can only select one answer or multiple answers
9. Choose whether to shuffle the answer options
10. Write the first answer in the Choice 1 text field. Inserting HTML into this area also makes it possible to add an image or a sound file.
11. Select a grade percentage for the answer. This is the percentage of the total points for the question that selecting this response is worth. Negative percentages can be added as well as positive percentages. So, selecting a correct response in a multiple answer question may give 50% of the possible points, while selecting a wrong answer may take away 10%. Note that in a multiple-answer question, the positive grades must add up to at least 100%.
    - Be aware that if multiple answers are allowed and consist of more than a single correct choice, and a negative grade percentage for wrong answers is not used, the students can simply tick all choices and get the full grade.
12. Feedback can be added for each response (optional). It may be a bit more work, but it's good practice to tell the students why each answer is right or wrong using the feedback area. If students know why an answer is right or wrong, they can analyse their own thinking and begin to understand why an answer is correct. The feedback will only be displayed if you select Show Feedback in the quiz body options.
13. Fill in the rest of the response choices in the rest of the form. Any unused areas will be ignored.
14. Fill in the overall feedback fields (optional)

15. Select the "Save Changes" button at the bottom of the screen

Other Assessment Information in eLearn@USM

These are some other information related assessments in eLearn@USM.
- Questions are stored in the course Question bank in *Administration > Course administration > Questions*
- Questions can be organised into Question categories and shared with others who are teaching the same course
- eLearn@USM has a number of different formats that can be used to import or export questions.
- Students can upload images to an Essay question. When creating the question, in the section *Response format*, choose "HTML editor + uploaded files.

As eLearn@USM will be the main platform for online assessment during the Covis-19, it is advisable for lecturers to minimize cheating attempts by:
- Randomisation of questions in the online examination/assessment
- Shuffling the anwers for MCQ questions
- Disabling the copy and paste feature for essay questions.

For more information and assistance on using eLearn@USM for assessment, please contact eLearn@USM Help Desk at elearn@usm.my or ext. 4472.

CLOSING

Validity is the core component in educational assessment, regardless of whether it is in online mode or conventional mode. There are three main stages to obtain a high degree of validity, namely: (a) the selection of appropriate assessment methods; (b) the construction and development of assessment tasks; and (c) the professional procedures of administering the assessment. These three stages were succinctly covered in this guidebook. The first and second chapters discussed the main principles of Online Assessment and various Online Assessment methods that can be utilized amicably.

Despite the enthusiasm of experimenting the new fully-online assessment methods, care must be taken by lecturers. We insist that all lecturers adapting the Online Assessment mode must make sure the course learning outcomes (CLO) of the courses, namely the domains involved (cognitive, affective and psychomotor) and the domain content are all thoroughly adhered to. In other words, lecturers are required to review the CLO and the content domain of the course carefully when selecting the appropriate assessment method/s. The constructive alignment of CLO with assessment is the main concern of the MQA and USM OBE agenda. In this respect, Chapters 3 and 4 highlighted important guidelines for Student Learning Time (SLT) conversion and examples of converting examination into coursework component/s are provided.

In chapter 5, we discussed the important protocols of conducting a 20-percent examination as recommended by the university academic division. Some important protocols and procedures in developing assessment task(s) were discussed in this chapter. These procedures are vital to determine the content validity of assessment. Subsequently, lecturers should equip themselves with basic skills in implementing Online Assessment. Therefore, in chapter 6, the guidelines of developing and administering the assessment through elearn@USM were highlighted in detail. We hope that lecturers find this guidebook handy and will use it effectively so that USM can proceed and complete this semester on time and maintain the highest standard of learning & teaching and assessment experience for both students and lecturers.

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I.   How to password-encrypt document

To ensure its security and safety, a file needs to be password-protected and encrypted.

Password protection is like locking something in a safe. To access that document, we must know the correct combination. Meanwhile, **encryption** is like taking our secret document and scrambling all the letters in that document so it is virtually unreadable by anyone not authorized to read it.

Password encryption is a third option that combines password protection and encryption. The primary benefit of using both is having two layers of security. Now our secret document is in a safe and it's inscrutable.
(source: *https://www.avast.com/c-password-protect-file-folder-windows*)

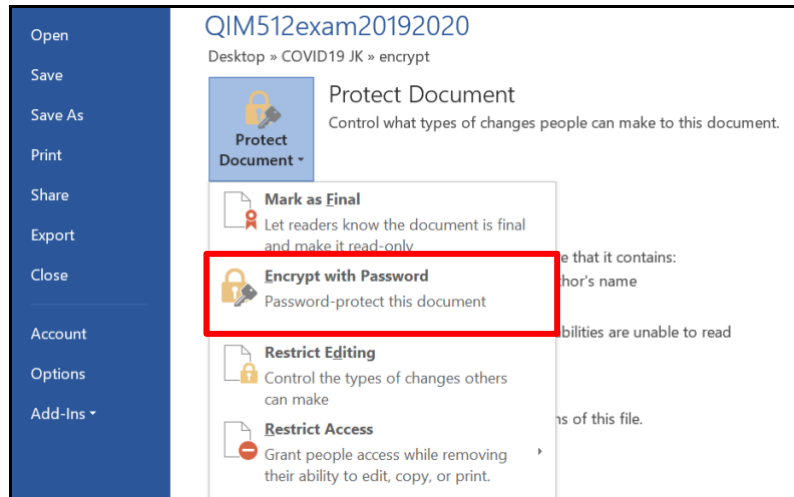The steps to perform password encryption of a file are:

1   **Open the file** / document (MS Word doc.)

     (Note: before you perform this step, make a back-up for this file, by saving it with a different file name. This will be your unencrypted back-up file – just in case you forget the password later).
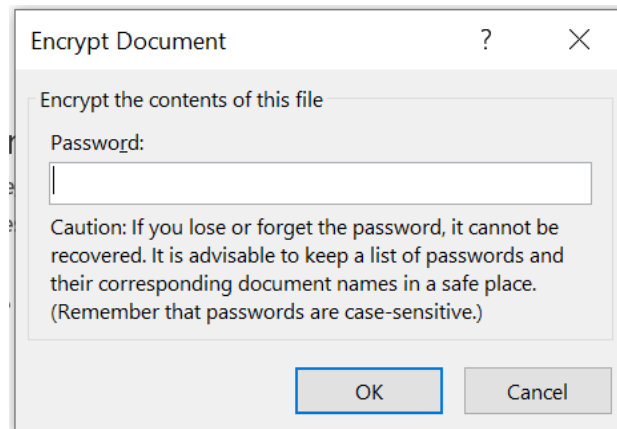
2   Click **File** tab
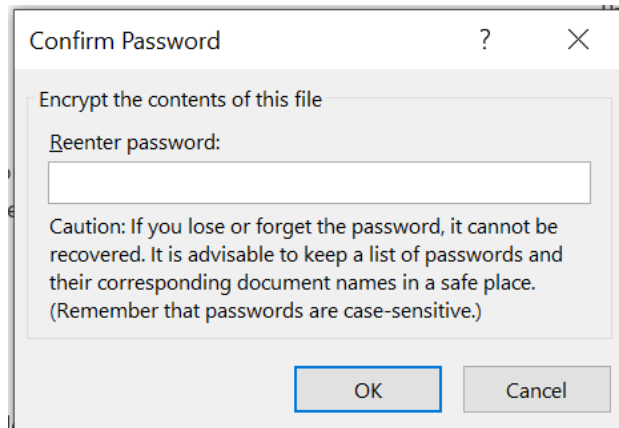
3   In the *Info* interface, click '**Protect Document'**
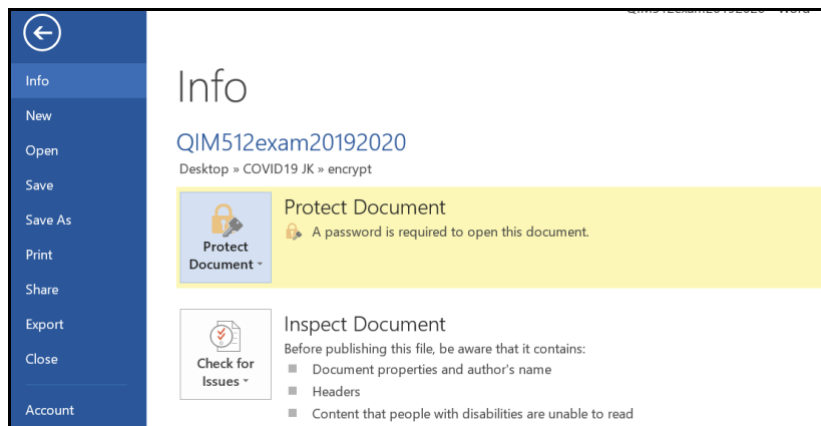
4   Choose '**Encrypt with Password**'

5   Enter a **Password** to encrypt the document

6   Next, **confirm the password**

7   The file is now encrypted with password.

(Note: To open it later, you need to use the correct password)

Notes:

- An encrypted file can still be deleted, so it is a good practice to have a backup.

- If you lose your password, you've lost your files forever. So, again, keep an unencrypted backup somewhere safe where it won't be found.

Grading Authentic Assessments

A rubric enhances the quality of authentic assessment...

Advantages in Using Rubrics

- Many experts believe that rubrics improve students' end products and therefore increase learning.

- When teachers evaluate papers or projects, they know implicitly what makes a good final product and why.

- When students receive rubrics beforehand, they understand how they will be evaluated and can prepare accordingly.

- Developing a grid and making it available as a tool for students' use will provide a frame of reference for the self-assessment of the quality of their work.

Once a Rubric is Created...

An established rubric can be used or modified and applied to many activities. For example, the standards for excellence in a writing rubric remain constant throughout the school year; what does change is students' competence and your teaching strategy. Because the essentials remain constant, it is not necessary to create a completely new rubric for every activity.

Many educators find that authentic assessment is most successful when students know *just what is expected.* For this reason, teachers should clearly define standards and expectations. Educators use **rubrics,** or established sets of criteria, to assess a student's work.

A rubric is a scoring guide that seeks to evaluate a student's performance based on the sum of a full range of criteria rather than a single numerical score. Rubrics can be created in a variety of forms and levels of complexity, however, they all contain common features which:

- focus on measuring a stated objective (performance, behavior, or quality)
- use a range to rate performance
- contain specific performance characteristics arranged in levels indicating the degree to which a standard has been met

Rubrics can be created for any content area including math, science, history, writing, foreign languages, drama, art, music, and even cooking! Once developed, they can be modified easily for various grade levels. The following information presents general guidelines for developing a rubric. To Illustrate the various steps a sample rubric is used. This rubric was created by a group of postgraduate education students at the University of San Francisco, but could be developed easily by a group of elementary students.

Steps in Rubric Development

1. Determine Learning Outcomes

- Determine which concepts, skills, or performance standards you are assessing
- List the concepts and rewrite them into statements which reflect both cognitive and performance components
- Identify the most important words within the concepts or skills being assessed in the task

Chocolate Chip Cookie Rubric
The cookie elements the students chose to judge were:
- Number of chocolate chips
- Texture
- Color
- Taste
- Richness (flavor)

2. Determine Measurable Criteria

- On the basis of the purpose of the task, determine the number of points to be used for the rubric (example: 4-point scale or 6-point scale)
- Starting with the desired performance, determine the description for each score remembering to use the importance of each element of the task or performance to determine the score or level of the rubric

Chocolate Chip Cookie Rubric

The students developed a 4-point scale with the following descriptions:

- Delicious (4)
- Good (3)
- Needs improvement (2)
- Poor (1)

The measurable criteria for each point of the scale follows:

4—Delicious:
- Chocolate chip in every bite
- Chewy
- Golden brown
- Home-baked taste
- Rich, creamy (high-fat flavor)

3—Good:
- Chocolate chips in about 75 percent of the bites taken
- Chewy in the middle, but crispy on the edges
- Either brown from overcooking, or light from being 25 percent raw
- Quality store-bought taste (medium-fat content)

2—Needs Improvement:
- Chocolate chips in 50 percent of the bites taken
- Texture is either crispy from overcooking or does not hold together because it is at least 50 percent uncooked
- Color is either dark brown from overcooking or light from undercooking
- Tasteless (low-fat content)

1—Poor:
- Too few or too many chocolate chips
- Texture resembles a dog biscuit
- Burned
- Store-bought flavor with a preservative aftertaste—stale, hard, chalky nonfat contents

Steps in Rubric Development

(continued)

3. Develop a Grid

Criteria	4-Delicious	3-Good	2-Needs Improvement	1-Poor
Number of chips	Chocolate chip in every bite	Chips in about 75% of bites	Chocolate in 50% of bites	Too few or too many chips
Texture	Chewy	Chewy in middle, crisp on edges	Texture either crispy/crunchy or 50% uncooked	Texture resembles a dog biscuit
Color	Golden brown	Either brown from overcooking or light from being 25% raw	Either dark brown from overcooking or light from undercooking	Burned
Taste	Home-baked taste	Quality store-bought taste	Tasteless	Store-bought flavor, preservative aftertaste—stale, hard, chalky
Richness	Rich, creamy, high-fat content	Medium fat contents	Low-fat contents	Nonfat contents

4. Compare Student Work to the Rubric

- Assign a rating to the various criteria you have identified as important.
- Revise the rubric descriptions based on performance elements reflected by the student work that you did not capture in your original rubric
- Rethink your scale: Does the number of points differentiate enough between types of student work to satisfy you?
- Adjust the scale if necessary. Reassess student work and score it against the developing rubric.

To assist in the initial development of a rubric, sample criteria (on a 5-0 point score range) are presented on the next page.

	Criteria for Scoring
5	• This is the highest rating • The student is extremely knowledgeable about the topic • The student demonstrates in-depth understanding of important ideas • The student shows a depth of understanding of important relationships • The answer is fully developed and includes specific facts or examples • The answer is organized around big ideas, major concepts/principles • The response is exemplary, detailed and clear
4	• The student is knowledgeable about the topic • The student has a good understanding of the topic • The student includes some of the important ideas related to the topic • The student shows a good understanding of the important relationships • The answer demonstrates includes adequate supporting facts or examples • The answer demonstrates some organization around big ideas, major concepts/principles • The response is good, has some detail, and is clear
3	• This is the middle score of the scale • The student demonstrates some know ledge and understanding of the topic. The overall answer is OK but may show apparent gaps in his/her understanding and knowledge • The student includes some of the important ideas related to the topic • The student shows some but limited understanding of the relationships • The answer demonstrates satisfactory development of ideas and includes some supporting facts or examples • The response is satisfactory, containing some detail, but the answer may be vague or not well developed and may include misconceptions or some inaccurate information
2	• The student has little knowledge or understanding of the topic • The student does not develop the ideas or deal with the relationships among the ideas • The response contains misconceptions or inaccurate information • The student may rely heavily on the group activity • The response is poor and lacks clarity
1	• The student shows no knowledge or understanding of the topic. • The student either: (1) writes about the topic using irrelevant or inaccurate information (2) recalls the steps of the Group Activity in Part II of the performance assessment, adding no new or relevant information and showing no understanding of how the activity relates to the general topic.
0	• The student either: (1) left the answer blank (2) wrote about a different topic (3) wrote "I don't know"

Source:
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