

# **Guidelines for Quality Assurance of Micro-module Development**

Centre for Learning Enhancement and Research (CLEAR)  
The Chinese University of Hong Kong

April 2022

## ***1. Background***

Micro-modules (MM) are increasingly used in higher education, but there is no existing evaluation mechanism to ensure the overall quality and effectiveness of MM. Funded by the Teaching Development and Language Enhancement Grant (TDLEG) for the 2019-22 Triennium, we carried out a project to develop a comprehensive mechanism for quality assurance and enhancement of MM.

The guidelines are intended to promote critical reflection around issues related to the quality of MM, and to result in informed practice.

## ***2. Development process***

In order to develop a rubric for MM evaluation, a literature review on existing eLearning frameworks and rubrics was conducted. The review covered quality assurance guidelines from well-known universities or accreditation bodies, scholarly review of existing evaluation frameworks, as well as practical guidelines for instructors designing multi-media content.

We took reference of relevant criteria from existing rubrics, added new criteria related to MM quality, and removed criteria that are not relevant or practical to implement.

Then, invitations were sent to teachers of CUHK and nearly 100 MM from various faculties were collected for review. The review process involved three panels that consisted of external educational experts, subject specialists, and technicians. The quality assurance mechanism was finally revised based on teachers' comments.

## ***3. The Quality Assurance Mechanism***

### ***4.1. Review panels and project team***

The quality assurance process involves three panels to evaluate different aspects of the MM, namely the Subject Expert Panel, the Education Expert Panel, and the Technical Panel.

#### ***3.1.1. Subject Expert Panel***

##### ***Role and purpose***

- To review the MM on the merits of its pedagogical design and subject content according to the established rubrics
- To provide feedback to teachers regarding the MM

##### ***Membership***

- At least 2 external experts (PhD + teaching experience in higher education)

#### ***3.1.2. Education Expert Panel***

##### ***Role and purpose***

- To provide comment for the comprehensive rubrics
- To review the MM on the merits of its instruction design according to the established rubrics

- To provide feedback to teachers regarding the MM

*Membership*

- At least 2 external experts (PhD + teaching experience in higher education)

### 3.1.3 Technical Panel

*Role and purpose*

- To review the MM on its technical aspect according to the established rubrics
- To provide feedback to teachers regarding the MM

*Membership*

- At least 2 technical experts such as multimedia developer and instructional designer

### 3.1.4 Project team

*Role and purpose*

- To be responsible for the general execution of the comprehensive mechanism
- To provide support to formative evaluation service on the use of MM to teachers
- To provide administrative support to the three panels
- To generate and distribute formative and summative evaluation reports to the teachers whose MM are reviewed

*Membership*

- At least 2 administrative staff to handle the review activities

## 3.2. The rubric

### 3.2.1 Outline of the rubric

A comprehensive rubric tailored for evaluating MM has been developed. It covered three key aspects and 21 sub-categories, namely:

#### I. Instructional design

1. *Active learning*: Guiding questions on learning objective
2. *Active learning*: Learning activities
3. *Student engagement*: Video length
4. *Student engagement*: Delivery method and tone
5. *Student engagement*: Pace
6. *Cognitive load*: Segmenting
7. *Cognitive load*: Signaling
8. *Cognitive load*: Multi-modal learning

#### II. Subject content

9. Accuracy and currency
10. Level of difficulty
11. Relevance to learning objective
12. Relevance to learning activities
13. Relevance to assessment
14. Content coverage
15. Sources and references
16. Copyright

#### III. Technical issues

17. Audio clarity
18. Video clarity
19. Accessibility: Subtitle/transcript
20. Accessibility: Typeface and color
21. Mobile friendly design

### 3.2.2 Intended use of this rubric

This rubric is intended to be part of the comprehensive MM evaluation mechanism. Each MM is to be reviewed by separately by three expert panels, each covering one key aspects of the rubrics. For detail, please refer to the Part 3.3 Review process flowchart.

		Source	Criteria			N/A	Points
			2	1	0		
<b>Instructional design</b>	1. <i>Active learning</i> : Guiding questions on learning objective	Brame (2015); Debattista (2018); Masoumi & Lindström (2011); Youself et al (2014)	Relevant guiding questions are used to prompt students to think about the learning objective. The learning objective is clearly presented.	Some guiding questions are used to prompt students to think about the learning objective. The learning objective is not explicitly presented.	No guiding questions are used to prompt students to think about the learning objective. The learning objective is not clearly presented.		
	2. <i>Active Learning</i> : Learning activities	Steering committee	Suitable active learning activities are used alongside with the MM.	Some learning activities are used alongside with the MM.	No learning activities are used alongside the MM.		
	3. <i>Student engagement</i> : Video length	Brame (2015); 15 Things (2018)	Video length is appropriate to keep students engaged without adding unnecessary information.	The video is slightly too long or too short, with some minor unnecessary information that may distract students.	The video is excessively long or short, with considerable unnecessary information that may distract students.		
	4. <i>Student engagement</i> : Delivery method and tone	Brame (2015); Fors (n.d.); QLCI (2018)	The speaker uses conversational language with an enthusiastic tone. The delivery method is engaging to the students.	The speaker uses conversational language. The delivery method may not be engaging to the students.	The language is overly formal. The speaker's tone lack enthusiasm. The delivery method is not engaging to the students.		
	5. <i>Student engagement</i> : Pace	Brame (2015); Fors (n.d.)	The pace of teaching is suitable to maintain students' level of engagement. The pace is appropriate to the learning objective.	The pace of teaching is slightly too fast or too slow to maintain students' level of engagement. The pace is somewhat appropriate to the learning objective.	The pace of teaching is exceedingly fast or slow to maintain students' level of engagement. The pace is not appropriate to the learning objective.		
	6. <i>Cognitive load</i> : Segmenting	Brame (2015); Mayer (2009); QOCI (2018)	The content is divided into appropriate segments. The length of each segment is	The content is divided into segments, but the length of each segment	The content is not divided into appropriate segments. The length of the content is		

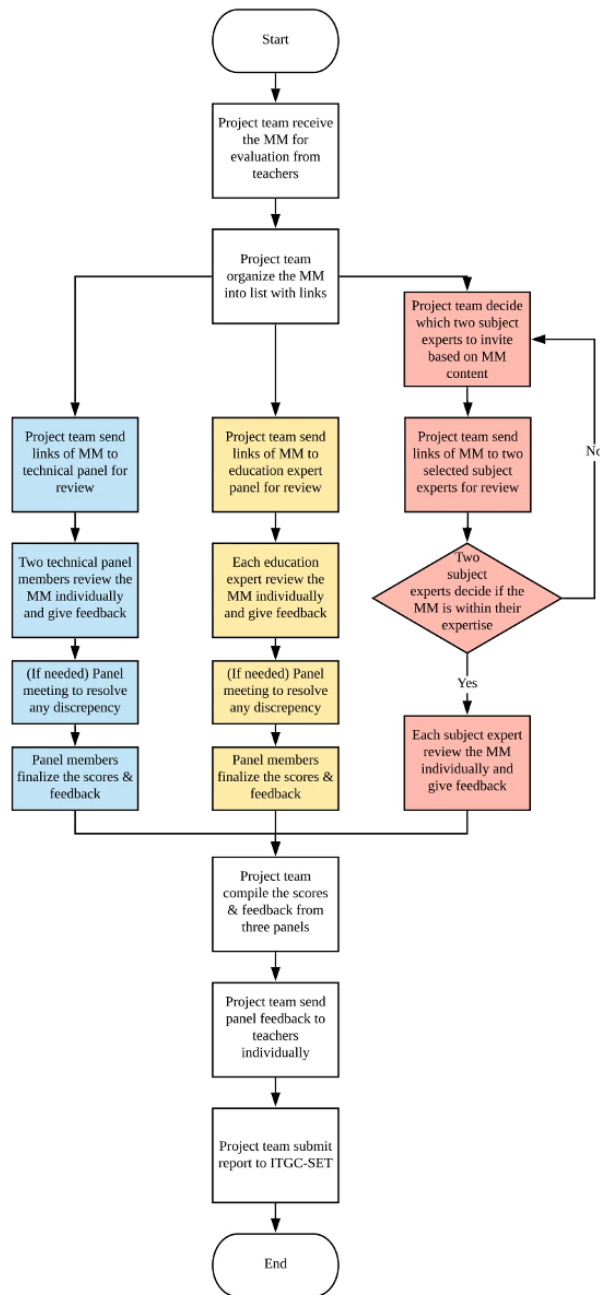
			suitable for students' cognitive load.	is slightly too long or too short for students' cognitive load.	exceedingly long or short for students' cognitive load.		
	7. <i>Cognitive load</i> : Signaling	Brame (2015); Mayer (2009)	Plenty of visual or audio signals are used to emphasize important information or keywords.	Some visual or audio signals are used to emphasize important information or keywords.	No visual signals or cues are used to emphasize important information or keywords.		
	8. <i>Cognitive load</i> : Multi-modal learning	Mayer (2009); QOCI (2018); 15 Things (2018)	Plenty of visual aids are used to enhance learning. The audio and visual aid convey complementary information.	Few visual aids are used. Such effects do not enhance nor hinder learning. The audio and visual aid are largely complementary of each other.	Inappropriate or distracting visual aids are used. The audio and visual aid are not complementary of each other.		
<b>Subject content</b>	9. Accuracy and currency	Masoumi & Lindström (2011)	All facts mentioned are accurate and up to date.	Most facts are accurate, but some minor errors or outdated information exist.	Significant factual errors or outdated information are found.		
	10. Level of difficulty	Project team	The level of difficulty is appropriate relative to the learning objective.	A minority of the content is too hard or too easy relative to the learning objective.	A significant part of the content is too hard or too easy relative to the learning objective.		
	11. Relevance to learning objective	QOCI (2018)	The content is directly relevant to learning objective.	A minority of the content is not directly relevant to the learning objective.	A significant part of the content is not directly relevant to the learning objective.		
	12. Relevance to learning activities	Steering Committee	The content is directly relevant to the learning activities.	A minority of the content is not directly relevant to the learning activities.	A significant part of the content is not directly relevant to the learning activities.		
	13. Relevance to assessment	Steering Committee	The content is directly relevant to the assessment.	A minority of the content is not directly relevant to the assessment.	A significant part of the content is not directly relevant to the assessment.		

	14. Content coverage	Project team	All content related to the learning objective are covered adequately.	Most of the content related to the learning objective are covered adequately.	A significant part of the content related to the learning objective are not covered adequately.		
	15. Sources and references	Christie (2014); QOCI (2018); 15 Things (2018)	All sources and references are clearly stated when needed.	Some sources and references are stated when needed.	No sources or references are stated when needed.		
	16. Copyright	Copyright (2018); QOCI (2018)	No potential copyright infringement is identified.	At least one potential copyright infringement is identified.	At least one highly probable copyright infringement is identified.		
<b>Technical issues</b>	17. Audio clarity	QOCI (2018); 15 Things (2018)	The voiceover is very clear, with little or no background noise.	The voiceover is generally clear, with occasional background noise.	The voiceover is not clear, with frequent background noise.		
	18. Video clarity	QOCI (2018); 15 Things (2018)	The video has good resolution. It is well exposed and focused.	The video has fair resolution. It is adequately exposed and focused.	The video has poor resolution. It is over/under exposed and/or out of focus.		
	19. <i>Accessibility:</i> Subtitle/transcript	QOCI (2018); 15 Things (2018)	Synchronized subtitle and/or transcript are provided.	Synchronized subtitle and/or transcript is partially provided.	No synchronized subtitle or transcript are provided.		
	20. <i>Accessibility:</i> Typeface and color	15 Things (2018)	The text used is clearly readable, with suitable font size and background color.	The text used is generally readable. The font size and/or background color could be adjusted in occasional instances to make it more readable.	The text used is not clearly readable. The font size or color need to be adjusted in many instances to make it more readable.		
	21. Mobile friendly design	Christie (2014); QOCI (2018)	The content can be clearly displayed on mobile devices.	The content can be displayed on mobile devices with minor loss of detail.	The content cannot be displayed properly on mobile devices; <u>OR</u> Certain key information is lost when mobile devices are used.		
							Full point = 42

\*When (i) any of the criterion is not applicable to a MM, or (ii) the result is not known to the evaluation team, the criterion will be regarded as “Not Applicable” and therefore removed from consideration. The two points related to the criterion will be deducted from total possible score, so that the overall percentage score is not affected.

### 3.3 Review process flowchart

\*When (i) any of the criterion is not applicable to a MM, or (ii) the result is not known to the evaluation team, the criterion will be regarded as “Not Applicable” and therefore removed from consideration. The two points related to the criterion will be deducted from total possible score, so that the overall percentage score is not affected.



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