

# Quality assurance criteria for learning resources

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## Introduction

The goal of the Training Coordinators' Community of Practice (CoP) Task Force on "Learning resources quality assurance" is to design a [generic framework](#) and discipline agnostic [recommendations](#) for the quality assurance of learning resources and catalogues of learning resources and/or training/learning platforms that contain such resources.

**Quality assurance (QA)** is a formal act of determining, verifying and attesting that learning resources comply with specified requirements/standards.

**Learning resource** is "any resource – including print and non-print materials and online/open-access resources – which supports and enhances, directly or indirectly, learning and teaching."<sup>1</sup> If a learning resource is used in a training environment, for training activities that are part of a training plan and involve instructors, facilitators and students, then we speak of **training materials**.

**Training/learning platform** is an integrated set of interactive online services that provides instructors, facilitators and students with tools and resources to deliver and manage learning activities.

**Catalogue of learning resources** is a curated database containing metadata descriptions of learning resources. The selection of resources is normally guided by inclusion/acceptance criteria, whereas descriptions conform to a specific metadata standard.

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<sup>1</sup> <http://www.ibe.unesco.org/en/glossary-curriculum-terminology//learning-resources>

The [generic QA framework](#) defines the requirements that should be met in order to conduct QA in an efficient and effective way.

The recommendations focus on online learning resources and take the form of self-assessment [checklists](#) of criteria, which are sufficiently general to cover many fields of application, while still being easily adaptable to specific use cases.

In line with the generic character of the recommendations, content-related criteria (e.g. topics covered or accepted, accepted types and formats, etc.) are not elaborated on. On the other hand, in support of recent efforts towards establishing training platforms and catalogues of learning resources in Europe and beyond, special attention is paid to the criteria guiding the selection of resources to be included in a platform/catalogue.

The checklists cover the following aspects and are intended for appropriate actors (personae):

### **CREATION OF LEARNING RESOURCES**

QA criteria and procedures focus on the quality of the learning resources that are being produced



**A content creator persona**

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### **SELECTION OF LEARNING RESOURCES**

(select/accept learning resources in a training platform or a catalogue of learning resources)

QA criteria and procedures focus on the quality of the materials to be included, but the main goal is to ensure the quality of the platform/catalogue.



**A content selector persona**

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### **METADATA RECORDS CREATION**

(e.g. during the curation of records in a training platform/catalogue)

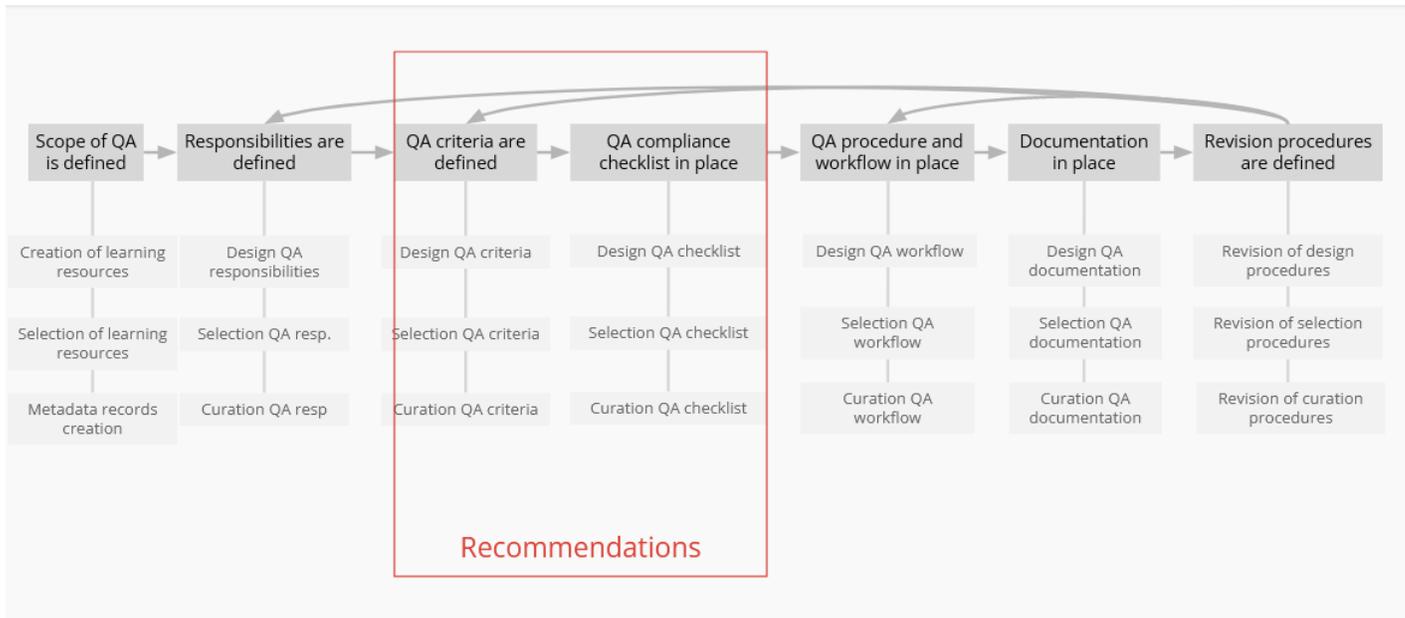
QA criteria and procedures focus on the quality of the records in the platform/catalogue (metadata, etc.), where the main goal is to ensure the quality of the platform/catalogue.



**A metadata creator for the content persona**

# Generic QA framework for learning resources and platforms/catalogue

The diagram shows the generic QA framework and the place of our self-assessment checklists in it. The other segments of the framework should be elaborated according to the specific context or use case.



To conduct QA efficiently and effectively

- Define the scope of QA in line with your persona (content creator, content selector, metadata creator for the content):
  - What is the subject of QA?
  - Why is QA conducted and in what context?
- Define responsibilities for QA:
  - Who is responsible for QA?
  - Who appoints individuals/bodies responsible for QA?
  - What qualifications are required from individuals/bodies responsible for QA?
- Define criteria for QA for your use case:
  - Adapt the criteria in the checklists provided below.
  - Add criteria related to the content and context of learning resources relevant for your use case.
- Create (a) QA compliance checklist(s) for your use case:
  - Adapt the checklists provided below.
  - Add criteria related to the content and context of learning resources relevant for your use case.
- Define QA procedures and workflows for your use case:

- Relying on the criteria and checklists, define individual steps in the QA process.
- Consult available resources about similar use cases.
- Define specific quality control measures.
- Define steps in case of non-compliance (e.g. return the resource to content creators for revision).
- Draft documentation describing your QA framework and procedures:
  - Provide sufficient details to ensure QA reproducibility.
  - Make documentation public.
- Define revision procedures for QA criteria and procedures, keeping in mind that due to changes in the policy and technological landscape, it may be necessary to revise QA criteria and procedures and even the QA framework. Define:
  - triggers for revision (administrative decision, policy changes, technological changes, etc.)
  - responsibilities and
  - time frames for revision.

## Recommendations: Checklists

### Checklist for learning resources

#### **CREATION OF LEARNING RESOURCES - A content creator persona**

**This checklist is intended for all institutions and individuals involved in the creation of learning resources.**

#### **Criteria**

- Scope is defined: subjects, themes, disciplines, domains, keywords.
- Target audience is defined.
- Learning outcomes are defined using action verbs that allow you to assess if an objective is achieved. For example, "Understand the meaning of FAIR" can be transformed into "Describe the meaning of FAIR". Check Bloom's taxonomy to find useful verbs for developing the learning outcomes (<https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/>).
- Knowledge prerequisites to use the learning resource are stated.
- The level of training and qualifications to be obtained after the training is completed are defined and the association of the resource with any skills and competencies or other educational frameworks are declared.
- Training methods (workshops, lectures, labs, etc.) and the estimated lengths of activities are defined.
- Delivery methods (classroom training, self-paced course, etc.) are defined. Check whether the pedagogic approach of activities matches the intended outcome.
- The materials are in line with the FAIR principles and open and reproducible science practices

- File formats for training materials are interoperable and reusable and/or community-endorsed standards are used to describe the educational content of the materials.
- The materials are made available via an appropriate platform or repository (that can facilitate FAIR compliance).
- Consider adding enough metadata so that a potential user has enough details to identify, choose and use the resource.
- Persistent Identifiers (PIDs) are assigned (where relevant).
- Consider adding enough descriptive materials for learning resources (e.g. instructions for games, etc.).
- The materials are assigned a licence.
- Copyright, usage conditions, access constraints and licensing are declared. In case existing materials are used, ensure that the necessary permissions to reuse the materials are obtained and all sources are credited.
- A preferred citation is created with a standard citation format.
- Technical requirements are listed (this can include space requirements for face to face teaching to detailed requirements for computational resourcing (e.g. what types of software need to be installed, is there expectation that students will have their own computers or will that be provided and so on).
- Accessibility approaches are defined, i.e. proof-read and accurate subtitles and transcripts for videos, audio files and presentations for hearing-impaired users; slides include thorough contextualising notes; audio-descriptions for visually impaired users.
- Responsibilities are defined (e.g. who will do what, who will update the material, etc.).
- Update procedures are in place.
- Any known translations into other languages than the primary language declared.

## Checklist for content selection

### **SELECTION OF LEARNING RESOURCES - A content selector persona**

This checklist is intended for the providers of training platforms and catalogues of learning resources. Before using the checklist make sure that:

- Policies and acceptance criteria for the platform/catalogue are defined;
- Responsibilities are defined – who is responsible for selection);
- Selection procedures and workflows are defined.

### **Criteria**

- The thematic scope of the resources is in line with the platform's/catalogue's thematic scope.
- The language of the resources is accepted by the platform/catalogue.
- Country of origin is eligible (if applicable/relevant, e.g. legal requirements).
- Learning outcomes are defined.
- Where relevant, training methods (workshops, lectures, labs, etc.), delivery methods (classroom training, self-paced course, etc.) and file formats are in line with the platform's policies.
- Information about the level of training and qualifications is provided.

- Licence terms (for the materials) are in line with platform's licence policy.
- An approach has been identified for improving compliance of the materials with FAIR principles and open and reproducible science practices:
  - File formats are in line with the formats accepted by the platform.
  - All mandatory metadata required by the platform are provided.
  - PIDs (persistent identifiers) are assigned.
  - Licence information is available.
  - Copyright, usage conditions, access constraints and licensing are declared and all sources are credited in case existing materials are reused.
- The origin/provenance of the materials is known and is acceptable for the platform.
- User guidelines for the materials are provided.
- Responsibilities for the materials are defined (who created, who will maintain and update).

For the catalogues of learning resources that contain only metadata records:

- Preservation is ensured (e.g. materials are deposited in a repository/platform that can ensure that they are accessible for a reasonable period of time, preferably in repositories with a long-term preservation policy).

## Checklist for metadata records creation stage

### **METADATA RECORDS CREATION - A metadata creator for the content persona**

This checklist is intended for curators working with the providers of training platforms and catalogues of learning resources.

#### Criteria

- The metadata are aligned with the metadata standard used by the platform.
- The metadata are correct and complete.
- Links are valid and accessible.
- Quality of media objects is good.
- Licences and access rights are appropriate.
- Formats are interoperable.
- Revision procedures are in place (for records).

## Examples

Checklist for learning resources:

EOSC Synergy - Creating quality online training:

<https://moodle.learn.eosc-synergy.eu/course/view.php?id=15&section=28#tabs-tree-start>

Selection criteria:

SSHOC Marketplace inclusion criteria:

<https://marketplace.sshopencloud.eu/contribute/moderator-guidelines>

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