ATRIUM FAIR-by-Design Methodology Training

Session 2: Hands-on

**WELCOME TO IDCC ROOM ☺**

# Example learning resource

* [IDCC25 Workshop Open Science in Action](https://fair-by-design-methodology.github.io/IDCC25workshop/latest/)

# Part 0:

1. Familiarize Yourself with the Learning Material:

* Take a few minutes to review the learning material. Understand its purpose, content, and target audience.
* Note the format of the material (e.g., text document, video, interactive module).

1. Decide if you are going to continue working individually or as a group.

* If you are working individually, make a copy of this template

# Part 1: FAIR-by-Design QA checklist

[Use the provided QA checklist](https://docs.google.com/spreadsheets/d/1qQPOiWcbixy1TZeUMUPSv6mQNpxsdcyd/edit?usp=sharing&ouid=115095763696049991028&rtpof=true&sd=true)

1. Review the FAIRness Assessment Checklist:

* Carefully review the provided FAIRness Assessment Checklist.
* Ensure you understand each criterion and how it relates to the FAIR principles.
* Ask your trainer for clarification if needed.

1. Assess the FAIRness of the resource

* Use the provided QA template (or individual copy) to record your findings.
* Be specific and look for examples to support your assessments.
* Note any areas where the material is lacking in FAIRness.

1. Discuss Your Findings:

* Discuss your findings with your group and trainer.
* Identify the most significant areas for improvement.
* Prepare to share your findings during the debriefing session.

Tips:

* Be objective and thorough in your assessment.
* Focus on the practical aspects of FAIRness.
* Don't hesitate to ask your trainer for assistance.
* Remember that the goal is to improve the materials, so be constructive in your critique.

Part 2: SMART learning objectives

[How to define learning objectives](https://fair-by-design-methodology.github.io/FAIR-by-Design_ToT/latest/Stage%201%20%E2%80%93%20Prepare/02-Preparing%20FAIR%20Learning%20Objects/02-Preparing%20FAIR%20Learning%20Objects_cont/?h=bloom#defining-learning-objectives)

1. Review the Existing Learning Objectives (If Any):

* If the learning material already has learning objectives, review them.
* Assess if they are SMART (Specific, Measurable, Achievable, Relevant, Time-bound).
* Note any areas where they can be improved.

1. Use Bloom's Taxonomy:

* Use Bloom's Taxonomy to ensure a range of cognitive levels in your objectives (Remembering, Understanding, Applying, Analyzing, Evaluating, Creating).
* Start with lower-level objectives (e.g., remembering key terms) and progress to higher-level objectives (e.g., applying concepts to solve problems).
* Consider what level of learning the learning object is aiming to teach.
* Craft SMART Learning Objectives:
  + Example Objectives:
    1. Example 1 (Metadata): "By the end of this module, learners will be able to accurately identify and populate all mandatory fields of the RDA minimum metadata schema for this learning resource, using controlled vocabulary for subject terms."
    2. Example 2 (Accessibility): "Learners will be able to create accurate alternative text descriptions for all images in the learning resource, ensuring accessibility for visually impaired users."
    3. Example 3 (Reusability): "Learners will be able to identify at least three distinct modules within the learning resource that can be reused in different educational contexts."

1. Document Your Objectives:

* Write down your SMART learning objectives here

Tips:

* Focus on objectives that directly address the identified context.
* Use action verbs to clearly define what learners will be able to do.
* Ensure your objectives are learner-centered and focused on outcomes.
* Keep your objectives concise and easy to understand.
* Remember that the learning objectives should drive the improvements you make to the learning material.

Part 3: Metadata schema

[The RDA Minimum Metadata Schema](https://zenodo.org/records/6769695#.YrrP9-xBybQ)

1. Review the RDA Minimum Metadata Schema:

* Carefully examine the fields defined in the RDA minimum metadata schema for learning resources (table 1).
* Understand the purpose and requirements of each field.
* Note that all fields are mandatory (this is the minimal schema).

1. Compare Existing Metadata:

* Compare the existing metadata of your learning material to the RDA schema.
* Identify which fields are already populated and which are missing.
* Assess the quality and accuracy of the existing metadata.

1. Populate Missing Fields:

* For each missing mandatory field, provide appropriate values based on the content of the learning material.
* Use controlled vocabularies where applicable (e.g., for subject terms).
* Ensure that the values are accurate, complete, and relevant.

1. Improve Existing Metadata:

* Review the existing metadata for accuracy and completeness.
* If necessary, revise or expand the values to better align with the RDA schema and the FAIR principles.
* Pay particular attention to fields that impact Findability and Interoperability (e.g., Title, Identifier).

1. Use Controlled Vocabularies:

* Identify relevant vocabularies for your community and select applicable fields in the schema.

1. Assign Persistent Identifiers (PIDs) (If Applicable):

* If possible, devise a standardised approach to assign a persistent identifier (PID) to the learning material.
* This will ensure that the resource can be reliably located and cited.
* If you think PIDs are not an option in this case, discuss potential options with your trainer.

1. Document Your Changes:

* Use this document (or a copy) to record the changes you make to the metadata.
* Note the original metadata (if any) and the updated values.

Tips:

* Be thorough and accurate in your metadata creation.
* Pay attention to detail and ensure consistency across all fields.
* Use clear and concise language.
* Remember that metadata is essential for making learning materials Findable and Interoperable.
* If you are unsure about a field, ask your trainer for guidance.
* Use the FAIRness assessment to guide your decisions.
* Remember to document the process.

Part 4: Attribution

[Recommended practices for attribution](https://wiki.creativecommons.org/wiki/Recommended_practices_for_attribution)

1. The TASL Method:

* Review the TASL method:
  + Title: What is the title of the work?
  + Author: Who created the work?
  + Source: Where did you find the work?
  + License: What license is the work under?
* How each element contributes to proper attribution?

1. Identify All Reused Resources:

* Carefully examine the learning material and identify all resources used (e.g., images, videos, text excerpts, data sets).
* Make a list of these resources.

1. Check Existing Attributions:

* For each resource, check if there is an existing attribution.
* Assess if the attribution is complete and accurate.
* Identify any missing elements or errors.

1. Apply the TASL Method:

* For each resource, use the TASL method to create a complete and accurate attribution.
* Ensure that all four elements (Title, Author, Source, License) are included.
* If any information is missing, research and find it.

1. Enhance Attributions:

* How to ensure that the attributions are clearly visible and accessible (e.g., near the resource, in a separate attribution section)?

1. Verify Licensing Information:

* Double-check the licensing information for each resource.
* Ensure that the license is compatible with the overall license of the learning material.
* If using Creative Commons licenses, ensure that they are correctly applied and attributed.

1. Document Your Changes:

* Use this document (or a copy) to record the changes you make to the attributions.
* Note the original attribution (if any) and the updated attribution.

Tips:

* Be thorough and accurate in your attribution.
* Pay attention to detail and ensure consistency across all attributions.
* Use clear and concise language.
* Remember that proper attribution is essential for respecting copyright and promoting ethical use of resources.
* If you are unsure about an attribution, ask your trainer for guidance.
* Use the FAIRness assessment to guide your decisions.
* Remember to document the process.
* Pay special attention to resources that have been adapted or modified.

Part 5: Structure

1. Review the Existing Structure:

* Examine the current organization and flow of the learning material.
* Identify any areas where the structure is unclear, illogical, or overly complex.
* Consider how the material could be broken down into smaller, more manageable units.

1. Refer to Your Learning Objectives:

* Use your refined SMART learning objectives to guide the restructuring process.
* Ensure that the new structure supports the achievement of the learning objectives.

1. Enhance Granularity:

* Break down larger units into smaller, more granular learning objects (e.g., individual concepts, skills, or tasks).
* Each learning object should be focused and address a specific learning outcome.
* Consider using different media types (e.g., text, images, videos, interactive exercises) to create engaging and diverse learning objects.

1. Design Clear Titles and Descriptions:

* Assign clear and descriptive titles to each learning unit and learning object.
* Provide brief descriptions that explain the purpose and content of each unit or object.
* This will enhance findability and reusability.

1. Document Your Changes:

* Use this document (or a copy) to record the changes you make to the logical structure and granularity.
* Note the original structure and the new modular structure.

Tips:

* Focus on creating a logical and intuitive structure that is easy for learners to navigate.
* Use clear and consistent labeling and formatting.
* Ensure that the modules and learning objects are self-contained and can be used independently.
* Consider the different ways that the learning material could be used in different educational contexts.
* Remember that modularity and granularity are essential for promoting reusability and adaptability.
* Consider how you can use metadata to enhance the findability of the modules and learning objects.
* Remember to document the process.

Part 6: Accessibility

[Accessibility Know-How](https://fair-by-design-methodology.github.io/FAIR-by-Design_ToT/latest/Stage%204%20%E2%80%93%20Produce/11-Accessibility/11-Checking_accessibility/?h=access#html-accessibility-evaluation)

1. [Alternative Text for Images](https://webaim.org/techniques/alttext/):

* Identify Images: Locate all images within the learning material.
* Context is Key: For each image, consider its context and purpose within the learning material. What information is the image conveying?
* Write Descriptive Alt Text:
  + Write clear and concise alternative text that accurately describes the image.
  + Focus on the essential information the image conveys.
  + Avoid phrases like "image of" or "picture of."
  + If the image is complex (e.g., a graph or chart), provide a more detailed description.
  + If the image is purely decorative, use empty alt text (alt="").

1. Using an Accessibility Checker:

* [Install the LERA Plugin](https://advancedbytez.com/lera/): Install the accessibility checker plugin in your web browser (working with web-based materials).
* Run Check: Run the accessibility checker on the learning material.
* Review Results: Carefully review the results of the accessibility check.
* Identify Issues: Identify any accessibility issues that are flagged by the checker.
* Re-Check: Re-run the accessibility checker on other examples to compare findings.

1. Document Your Changes:

* Use this document (or a copy) to record the changes you should make to improve accessibility.

Tips:

* Focus on making the learning material accessible to all learners, including those with disabilities.
* Be thorough and accurate in your alternative text and captioning.
* Use clear and concise language.
* Remember that accessibility is an ongoing process.
* If you are unsure about an accessibility issue, ask your trainer for guidance.
* Use the FAIRness assessment to guide your decisions.
* Remember to document the process.

Part 7: Formats, Learning Experience and Versioning

1. [Interactive learning modules](https://elearningindustry.com/effective-techniques-for-creating-interactive-elearning-modules)

* make a suggestion on how to enrich the learning materials with interactive elements
* how to assess the learner knowledge
* how to provide additional activities, preferably interactive

1. [File formats](https://en.wikipedia.org/wiki/List_of_open_file_formats):

* Publish for Instructors:
  + Choose how and where to publish the instructor kits and editable version of the learning content
  + Provide clear instructions on how instructors can access and use the materials.
* Publish for Learners:
  + How to publish the learning materials in a way that is easily accessible to learners.
  + What types of file formats will be used in this case

1. [Implementing Collaborative Versioning](https://www.linkedin.com/advice/0/how-can-you-manage-version-control-digital-learning-eo7mc):

* Suggest how to use Version Control:
* You want to be able to easily access version history of all documents.
* Make the version history easily accessible to users.

1. [Gathering Feedback](https://elearningindustry.com/best-practices-to-collect-feedback-for-your-online-course):

* Suggest feedback mechanisms for the learning materials (e.g., feedback forms, surveys, comment sections).
* Provide clear instructions on how learners can provide feedback.
* How to gather feedback from a variety of sources, including learners, instructors, and experts.

1. [Handle improvements](https://microcredentials.digitalpromise.org/explore/5-engaging-in-continuous-improvement-for-digital-l):

* Define a procedure on how to implement identified changes in a systematic and organized manner.

1. Document Your Process:

* Use this document (or a copy) to record your decisions and actions related to publishing, versioning, collaboration, feedback, and continuous improvement.

Tips:

* Use open file formats
* Provide editable versions for instructors with a comprehensive instructor kit
* Focus on creating a sustainable and scalable process for managing and improving the learning materials.
* Use clear and consistent documentation.
* Encourage collaboration and feedback from diverse stakeholders.
* Remember that continuous improvement is an ongoing process.