
Teaching how to FAIRify training materials

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COBLET Workshop 2022



Resources for this session

Acknowledgement of Country

I acknowledge the Turrbal and Jagera/Yuggera people as Traditional Owners and custodians of the lands on which I join you from today.

Meanjin (Brisbane), Australia viewed from Yeronga

Plan for this session

Topic/Activity
What's happening with FAIR training? (25 minutes)
How we will work today (5 minutes)
Group discussions - transforming the handbook into learning experiences (40 minutes)
Reporting back and discussion (45 minutes)
Summary and wrap up (5 minutes)



Resources for this session

**What's the story with FAIR
training?**

FAIR training: it takes a community

10 Simple Rules

This project started as a hackathon project at the ELIXIR BioHackathon Europe 2018 and was continued by the ELIXIR Focus Group on FAIR Training

The 10 Simple Rules were published in PLoS Computational Biology:

<https://doi.org/10.1371/journal.pcbi.1007854>

Putting FAIR training into practice

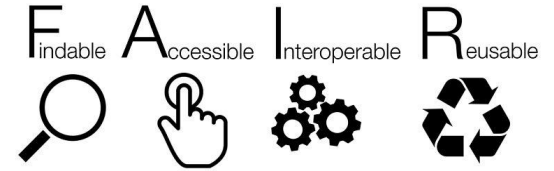
With thanks to all additional contributors and participants of the FAIR training initiative and activities from across the international community.



Why share and why FAIR?

Why share:

- Give back to the bioinformatics community
- Available for use and reuse by trainees, trainers
- Recognition of the time and effort of volunteer trainers



Why FAIR?

- Principles have been used to improve access to data, so why not training materials?
- Provides a framework for consistent sharing
- Best practice within the bioinformatics (training) community

The steps



10 simple rules paper: <https://doi.org/10.1371/journal.pcbi.1007854>

FAIR training workshops and meetings

2021

Apr

FAIR
Hackathon



May

Bioinformatics
Education
Summit



Jul

WEB



Oct 15

GOBLET
AGM



GOBLET

Global Organisation for Bioinformatics
Learning, Education & Training

Nov 8-12

BioHackathon
Europe



CINECA “How FAIR are you?” Hackathon



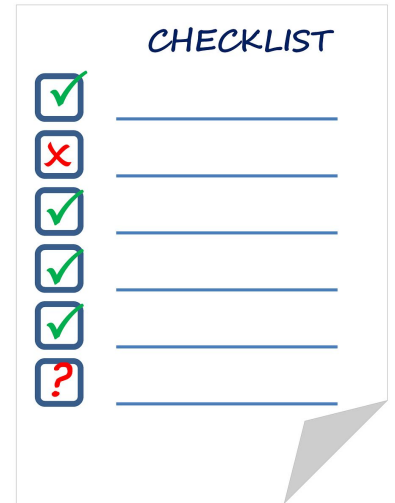
Focused on FAIRness for Cohort data, Software and Training materials

FAIR Training materials activities identified:

- Common scenarios in sharing training materials
- Pain points for making training materials FAIR

Built on work by H3ABioNet and 10 Simple Rules

- Developed a first draft of a FAIR training materials checklist



Education Summit 2021



GOBLET
Global Organisation for Bioinformatics
Learning, Education & Training



Virtual training now and in the future - what role does FAIR play?

Key thoughts and ideas

- The first time that many people had heard about FAIR training
- FAIR has become more important since training moved online
- FAIR in different settings e.g. what's possible in different countries
- FAIR for education vs training
- Challenges of FAIR training

ISMB Workshop for Education in Bioinformatics



Bioinformatics trainers, training co-ordinators and educators

- Share experiences and approaches taken towards FAIRifying training materials in different settings
- Consolidate the challenges identified at CINECA Hackathon and Education Summit
- Brainstorm solutions to these challenges

Key challenges and wished for resources

Challenges:

- Certain aspects of FAIR have a steep learning curve
 - Knowing how to get started
 - How FAIR is FAIR enough?
 - Lack of practical guidance e.g. how to choose a registry
 - Using particular tools and platforms

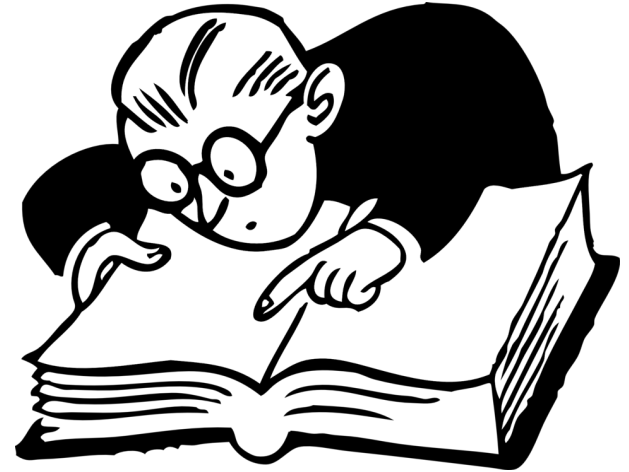
Wished for resources:

- Guidance documents
- Vignettes
- Checklists
- Training on FAIRifying materials

A handbook on making training materials FAIR

Expand on the 10 Simple rules and create a guide that:

- Steps through the decisions to be made when making materials FAIR
- Provides practical guidance on e.g. choosing a registry, metadata for training materials
- Crowd sourced from the community



GOBLET AGM and ELIXIR Biohackathon

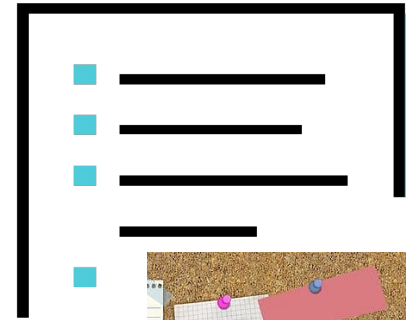


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Global Organisation for Bioinformatics
Learning, Education & Training



- Brainstorm the topics to be included
- Discuss how to collate ideas for the chapters
- Write descriptions
- Develop learning outcomes
- Form working groups



What's been happening in 2022

BioHackathon on "Developing (FAIR) training materials for a lesson on how to develop (FAIR) training materials"

BioHackathon on "Developing (FAIR) training materials for a

BioHackathon on "Developing (FAIR) training materials for a

BioHackathon on "Developing (FAIR) training materials for a lesson on how to develop (FAIR) training materials"
8-12 November 2021

Chapter 1: Why FAIR training & training materials?

#	Title of the chapter	Description	10 SR - Rule
1	Why FAIR training & training materials?	<ul style="list-style-type: none">- Where FAIR comes from? A bit of history and context- F for Findable, A for Accessible, I for interoperable, R for Reusable: FAIR applied to training / training materials- Introduction to 10 simple rules to make your training / materials FAIR (or to develop FAIR training / materials)- Pros & Cons of FAIRification (e.g. Pro: Building communities; Con: difficult)- FAIR x Open	Rule 1: Plan to share your training materials online

1. Why FAIR training materials?

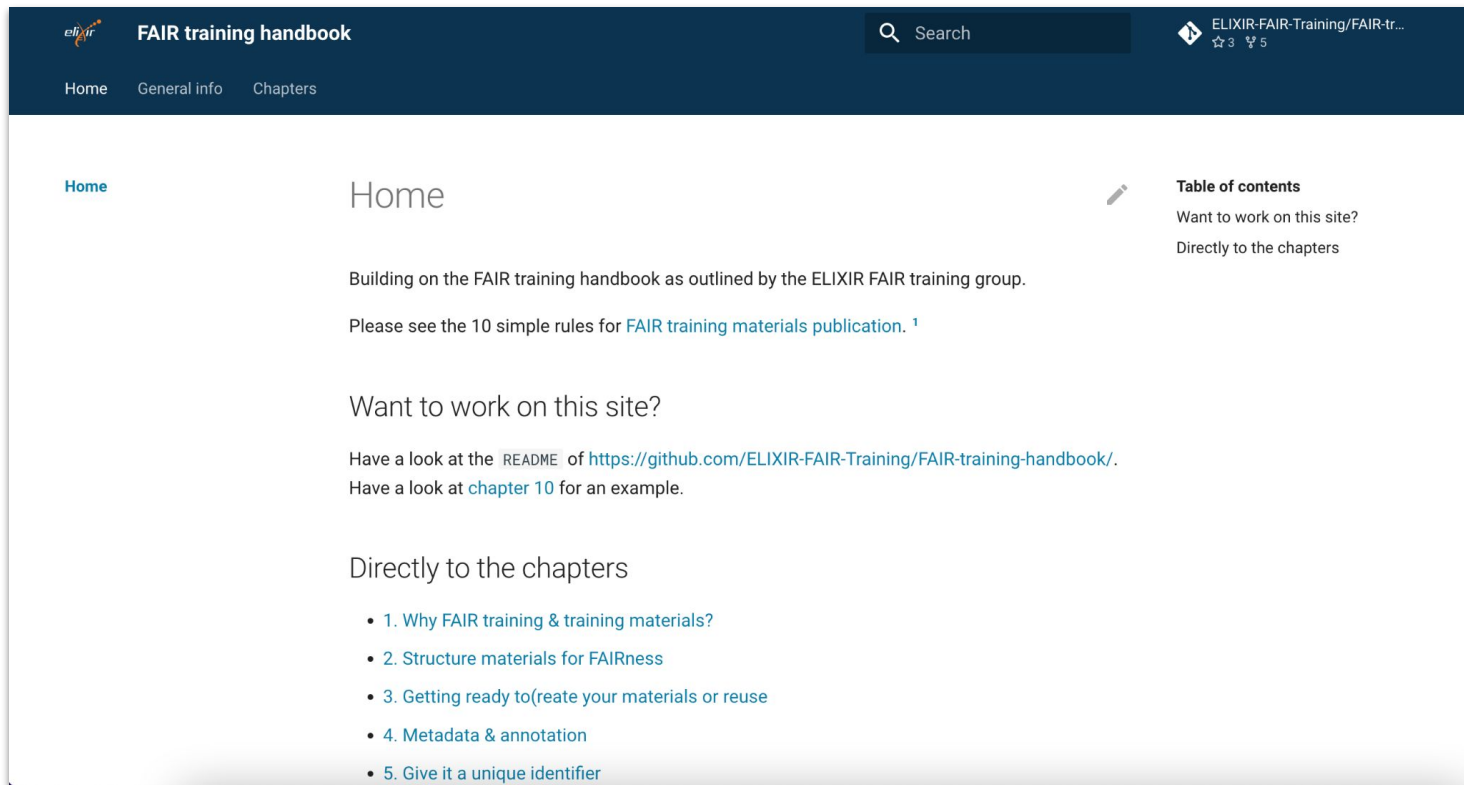
1.1 Short description

This chapter explains what the FAIR principles are, the importance of these principles and their increased adoption over the years, as well as the pros and cons of making training materials FAIR. We will give a brief history of FAIR data, and how these principles were extended and adapted to training materials.



First look at the handbook

<https://elixir-fair-training.github.io/FAIR-training-handbook/>



The screenshot shows the home page of the FAIR training handbook. The header is dark blue with the Elixir logo and the title 'FAIR training handbook'. A search bar is on the right. Below the header, there are navigation links for 'Home', 'General info', and 'Chapters'. The main content area has a 'Home' section with a sub-header 'Home' and a paragraph about building on the handbook. It includes a link to '10 simple rules for FAIR training materials publication'. There is also a 'Table of contents' section with a pencil icon and a link to 'Directly to the chapters'. A 'Want to work on this site?' section contains a link to the GitHub README and a link to 'chapter 10'. A 'Directly to the chapters' section lists five numbered items: '1. Why FAIR training & training materials?', '2. Structure materials for FAIRness', '3. Getting ready to(reate your materials or reuse', '4. Metadata & annotation', and '5. Give it a unique identifier'.

FAIR training handbook Search ELIXIR-FAIR-Training/FAIR-tr... ☆ 3 🍷 5

Home General info Chapters

Home

Home

Building on the FAIR training handbook as outlined by the ELIXIR FAIR training group.

Please see the 10 simple rules for [FAIR training materials publication](#). ¹

Want to work on this site?

Have a look at the `README` of <https://github.com/ELIXIR-FAIR-Training/FAIR-training-handbook/>.
Have a look at [chapter 10](#) for an example.

Directly to the chapters


- [1. Why FAIR training & training materials?](#)
- [2. Structure materials for FAIRness](#)
- [3. Getting ready to\(reate your materials or reuse](#)
- [4. Metadata & annotation](#)
- [5. Give it a unique identifier](#)


Table of contents
Want to work on this site?
Directly to the chapters

The chapters

Chapter 1	<u>Why FAIR training & training materials?</u>
Chapter 2	<u>Structure materials for FAIRness</u>
Chapter 3	<u>Getting ready to create your materials or reuse</u>
Chapter 4	<u>Metadata</u>
Chapter 5	<u>Give it a unique ID</u>
Chapter 6	<u>Make it accessible</u>
Chapter 7	<u>Make it reusable</u>
Chapter 8	<u>Licensing</u>
Chapter 9	<u>Boosting discoverability</u>
Chapter 10	<u>Recognition/contribution</u>
Chapter 11	Checklist

How the chapters are structured


 **FAIR training handbook**

 ELIXIR-FAIR-Training/FAIR-tr...


Chapters

1. Why FAIR training & training materials?
2. Structure materials for FAIRness
3. Getting ready to create your materials or reuse
4. Metadata & annotation
5. Give it a unique identifier
6. Make it accessible
7. Make it reusable
- 8. Licensing**
9. Boosting discoverability
10. Recognition, acknowledgment, authorship

8. Licensing



Authors:

- Anna Swann
- Alexandra Holinski 

Description

This chapter will explain how you can encourage use and re-use of materials through choosing appropriate licences. It will cover the different licence options available to date and consider the implications for users. It will also explain the practicalities of implementing your chosen licences and give an awareness of common issues to consider.

Prerequisites

Learners should have material that they would like to share and consider attaching a licence to.

Learning Outcomes

1. List the differences between the various licence schemes and licence types
2. Describe the implications for users of materials and how this impacts on your choice

Table of contents

- Description
- Prerequisites
- Learning Outcomes
- What are licences and why are they required?
- Licence schemes
- Creative Commons licences
- Attaching a licence to your materials
- Reusing licenced materials
- Next steps

How the chapters are structured

Learning activity: find some examples of licences on training materials

This learning activity will help you think more critically about how licences can be used.

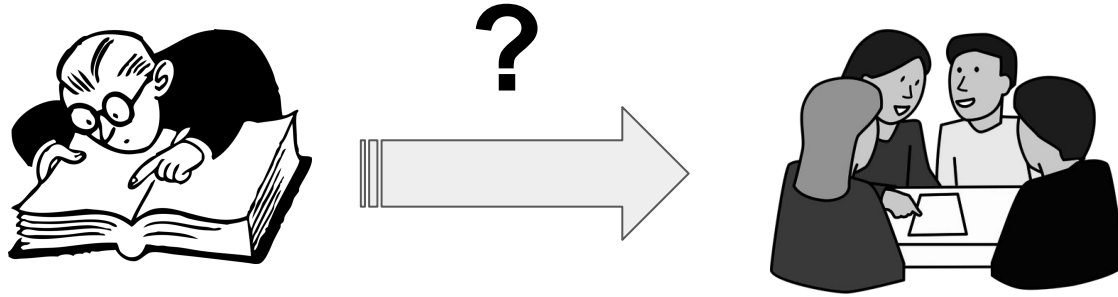
1. Find three examples of training materials that include a licence
2. Do they all use the same licence scheme or type of licence?
3. Are you clear on how you can use the materials or do you require more information?
4. Were the licences easy to spot?

Checklist

- Clearly label your materials with the chosen licence
- Include your contact information in case anyone needs to ask you any questions about your materials or their use
- Cite any other creators' materials that you include in yours - do not reuse others' works if you are not sure about their permissions
- Check with your institute/company if there are any specific licence rules or guidance

Next steps

Finalise chapters and seek feedback from the community (early 2023)



How to scale and enable groups to use the handbook together?

Develop lesson plans and outlines so that the handbook can be used as a teaching tool

Get involved and learn more

The handbook (work in progress, to be finalised in 2023)

<https://elixir-fair-training.github.io/FAIR-training-handbook/>

How to contribute to discussions on FAIR training

ELIXIR FAIR training focus group: <https://elixir-europe.org/focus-groups/fair-training>

Want to know more?

10 simple rules paper: <https://doi.org/10.1371/journal.pcbi.1007854>

ELIXIR Webinar on the 10 Simple Rules: <https://elixir-europe.org/events/elixir-webinar-fair-training>

CINECA Hackathon blog post:

<https://www.cineca-project.eu/blog-all/how-fair-are-you-webinar-series-and-hackathon>

From Learning Outcomes to Learning Experiences

LEs may underpin & the kinds of learning outcomes they may promote are also shown.

Learning experience	Highest Bloom's levels supported	Example TG(s) <i>This LE will allow me to...</i>	Example LO(s) <i>Learners will be able to...</i>
Lecture, webinar	Remember, Comprehend	Inspire learners, ignite learners' enthusiasm, clarify/explain a concept, provide an overview, give context, summarise content	<ul style="list-style-type: none"> • <i>list</i> the key points of the lecture/webinar • <i>summarise</i> take home message(s)
Exercise, practical	Apply, Analyse	Help learners digest course materials, solve typical problems, apply knowledge, show how to do things with appropriate guidance, give an idea of how a tool works	<ul style="list-style-type: none"> • <i>follow</i> a set of instructions or protocol • <i>calculate</i> a set of results or outcomes from a given protocol
Flipped class	Apply, Analyse	Teach learners how to formulate questions, help learners to memorise new information & concepts, or analyse & understand course materials	<ul style="list-style-type: none"> • <i>summarise</i> the content material • <i>ask</i> appropriate questions
Peer instruction	Synthesise, Evaluate	Prepare learners to defend an argument, give learners opportunities to explain things, thereby helping to develop critical thinking & awareness	<ul style="list-style-type: none"> • <i>explain</i> how they solved an exercise • <i>evaluate</i> others' choices/decisions • <i>diagnose</i> errors in the exercise-solving task
Group discussion	Synthesise, Evaluate	Give learners opportunities to practice questioning, develop new ideas & critical thinking	<ul style="list-style-type: none"> • <i>communicate</i> their own ideas • <i>defend</i> their own opinions
Group work	Synthesise, Evaluate	Promote collaborative work & peer instruction, provide opportunities for giving/receiving feedback, & digesting course materials	<ul style="list-style-type: none"> • <i>provide feedback</i> on their peers' work • <i>share</i> ideas • <i>explain the advantages of team-work</i>
Problem-solving	Synthesise, Evaluate	Promote learner abilities to identify & evaluate solutions, develop new ideas, make decisions, evaluate decision effectiveness, troubleshoot	<ul style="list-style-type: none"> • <i>diagnose</i> faulty reasoning or an underperforming result • <i>correct</i> errors

From a LO...

By the end of instruction, learners will be able to...

...describe how to use the Google Suite, GitHub, and Zenodo

...use the Google Suite, GitHub, and Zenodo

...make their materials FAIR on the Google Suite, GitHub, and Zenodo

To LE(s)...

By the end of instruction, learners will be able to...

...describe how to use the Google Suite, GitHub, and Zenodo



Bloom's remember / understand

Learning Experiences

- Brief narrative presenting the different platforms
- Exercise: share in groups which ones you use / test quickly those you never used

What we will work on today

Brainstorm ideas for converting the chapters into learning experiences

Chapter 8 learning outcomes

1. List the differences between the various licence schemes and licence types
2. Describe the implications for users of materials and how this impacts on your choice

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How we will work today

Breakout rooms:

- Topic 1: 15 minutes
- Break: 5 minutes
- Topic 2: 15 minutes
- Summing up and getting ready to report back: 5 minutes

Reporting back

- Share your ideas with the entire group

Master document: <https://tinyurl.com/COBLET2022-FAIR>



Learning experiences and activities

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Summary and wrap up

Thank you!

Any questions?
