Open Science Training Handbook

Collaborative writing of a living open handbook on Open Science training with 14 international experts invited to a book sprint

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Open Education Global Conference 2018
FOSTER Project

– ‘Fostering the practical implementation of Open Science’
– Two approaches: f2f training & e-learning

– Objectives:
  • Train researchers with focus on practical implementation
  • Strengthen the training capacity
www.fosteropenscience.eu

– Training materials
– Events calendar
– Trainers directory
– New e-learning courses
Activities - Strengthen the training capacity

→ ‘train the trainer’ approach

Open Science

Training Handbook & Trainer Bootcamp
Open Science Training Handbook

- Resource to support OS trainers
- Guide on how to forward knowledge on OS
- OER oriented to practical teaching

- Organisation of Book Sprint together with the TIB
  - February 2018, Germany
  - 14 experts invited as authors
Open Science Training Handbook

• Book sprint: ensure a finished book in only a few days
• In five days a book of 200 pages was written
• On last day pre-release online available for community to comment
Open Science Training Handbook

• Introduction
• Open Science Basics
  • Open Concepts & Principles
  • Open Research Data & Materials
  • Open Research Software & Open Source
  • Reproducible Research & Data Analysis
  • Open Access to Published Research Results
  • Open Licensing & File Formats
  • Collaborative Platforms
  • Open Peer Review, Metrics & Evaluation

• Open Science Policies
• Citizen Science
• Open Education Resources
• Open Advocacy
• On Learning & Training
• Organizational Aspects
• Examples & Practical Guidance
• Glossary
• References
• About the Authors & Facilitators
Open Science Basics Chapter

Rationale

Open Science is an approach that makes academic research more transparent, reproducible, and accessible to everyone.

1. Understand the importance of Open Science.
2. Become familiar with different research practices.

Learning outcomes

1. Be able to explain the core concepts supporting Open Science.
2. Develop an understanding of the practices involved in Open Science.
3. Be familiar with the present and future of Open Science.

Questions, observations

Q: "What is the difference between Open Science and Open Data?"
A: Open Data refers to making data available for others to use, while Open Science encompasses a broader approach to research, including data, code, and peer review.

Further reading

- Open Science: one term, five schools of thought (Fecher and Frieske, 2014).
- When will ‘Open Science’ become simply ‘science’? (Watson, 2015).
- Open innovation, Open Science, open to the world – a vision for Europe (2016).
- Do you speak Open Science? Resources and tips to learn the language (Masuzzo and Martino, 2017).
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On Learning and Training

• Training vs. teaching
• Strategies
• Expectations about the trainer
• Target audiences
• Teaching adults
• Bloom’s taxonomy
• Learning objectives & outcomes
• Motivation
• Practical Guidance

• Designing a course
  • Planning based on objectives & outcomes
  • Content collection/reduction

• Starting the training
  • Introductions, ice-breaker

• During the training
  • Active learning, gamification, engagement, feedback

• Training evaluation
  • Types of feedback, metrics for efficacy

• Rework your course
• Further reading
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Organizational aspects

- Training format
- Audience, guest speakers, and partners
- Venue
- Timing
- Budget
- Equipment & media
- Marketing & advertising strategy
- Registration
- Communication
- Catering

- Code of conduct
- Certification of attendance
- Signs
- Social Media & notes
- Event closure
  - Venue
  - Debrief
  - Evaluation
  - Dissemination
- Check list
<table>
<thead>
<tr>
<th>What</th>
<th>When and who?</th>
<th>Done?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment/media</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine what technical equipment is needed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check if enough power outlets are available</td>
<td></td>
<td></td>
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<tr>
<td>Order wifi for participants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organize video recording and taking pictures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test equipment a few days before the training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Print out handouts, feedback forms and material for exercises or publish them online</td>
<td></td>
<td></td>
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<tr>
<td>Prepare flip charts and pinboards</td>
<td></td>
<td></td>
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<tr>
<td>Venue</td>
<td></td>
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<tr>
<td>Check elevator access, accessible entrances, ramps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check public transport and parking availability</td>
<td></td>
<td></td>
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<tr>
<td>Locate maternity room, prayer room and gender neutral washrooms</td>
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</tr>
</tbody>
</table>
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Examples & Practical Guidance

• Example training structures
• Types of exercises
• 24 example exercises:
  • Format, time needed
  • Topic
  • Learning objectives
  • Exercise description
  • Materials and tools needed
  • Level of prior knowledge needed
  • Things to bear in mind
  • How to adapt for other purposes
<table>
<thead>
<tr>
<th>Title</th>
<th>Topic</th>
<th>Type</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line up!</td>
<td>general</td>
<td>whole group</td>
<td>5-10 min</td>
</tr>
<tr>
<td>Prioritization of training needs</td>
<td>Open Concepts and Principles</td>
<td>whole group</td>
<td>10 min</td>
</tr>
<tr>
<td>Selection of Open Science practices</td>
<td>Open Concepts and Principles</td>
<td>whole group</td>
<td>1-1.5 hour</td>
</tr>
<tr>
<td>Open Science discussion topics</td>
<td>Open Concepts and Principles</td>
<td>small groups</td>
<td>20-30 min</td>
</tr>
<tr>
<td>LIBER Open Science café</td>
<td>Open Concepts and Principles</td>
<td>small groups</td>
<td>1.5 hour</td>
</tr>
<tr>
<td>What is research data for me?</td>
<td>Open Research Data and Materials</td>
<td>individual / pairs</td>
<td>15 min</td>
</tr>
<tr>
<td>Why not share data?</td>
<td>Open Research Data and Materials</td>
<td>small groups</td>
<td>20 min</td>
</tr>
</tbody>
</table>
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Roadmap

• **Writing** the OSTH - Feb. 2018
• **Pre-release** available for comments & suggestions
• Discussing & including suggestions by community - March 2018
• Moving the OSTH to GitHub
• Finalizing everything for version 1.0
• **Release of OSTH 1.0** - April 2018

• **Living handbook** open for contributions
• Complementing the OSTH with webinars
Open Science Training Handbook

- Now available as GitBook
- CC 0 license to enable simple re-use

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https://doi.org/10.5281/zenodo.1212496
Illustrations
Thank you!

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This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 741839