Training as a Strategic Lever for Open Science: A Flexible Framework for Sustainable Capacity Building

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The context

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The challenge?



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Develop OPERAS Training Framework



The context

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- Identify targets and needs
  - Open Science, Research Data Management, FAIR Principles for Social Sciences and Humanities researchers
  - Diamond OA Publishing
  - OPERAS Services end-users



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  - Service end-users
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What is service end-user training?

- The process of equipping individuals with the **knowledge and skills** necessary to effectively and efficiently use a technology, platform, or service.
- It ensures that users not only know how to access and operate a service but also understand its **purpose, potential,** and alignment with the OPERAS' **mission and values.**

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Why is it important?

- Onboarding
- Improving user experience
- Enhancing overall productivity: more efficient use of services, which leads to reduced frustration, fewer support requests, and greater satisfaction
- Boosts user retention, increases adoption rates, and ultimately strengthens the return on investment for the RI.
- Contributes to creating a community around the service

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Mapping of potential targets for training programmes

GoTriple	SSH researchers; authors, editors; editorial managers; publishers; libraries; translators
PRISM	SSH researchers; authors; publishers; libraries
Hypotheses	SSH researchers; authors; publishers; libraries
OPERAS Metrics	SSH researchers; publishers; libraries
VERA	SSH researchers; publishers; libraries
Pathfinder	Authors; publishers; editors; editorial managers
Mondaecus	Translators, authors, editors

Targets and needs

Stakeholder group	Role	Needs
Infrastructure developers and technical staff, including service providers	These stakeholders support training on platform usage, APIs, technical standards, etc.	Integrate technical documentation with training materials. Apply FAIR principles to tutorials.
Data Stewards / Research Data Support Staff	These stakeholders are embedded in research environments, often supporting FAIR data, DMPs, etc.	Develop training tailored to research groups or disciplines. Co-deliver modules alongside domain researchers.

Stakeholder group	Role	Needs
Librarians and Scholarly Communication Officers	These stakeholders can be invited to lead institutional training on publishing, open data, research impact, among other topics. They also act as multipliers and institutional trainers.	Develop or adapt local/institutional training sessions using shared principles. Ensure consistency with broader OS and OA goals.
Open Science Officers or Community Engagement Leads, including National node representatives	These stakeholders promote adoption and culture change across stakeholder groups.	Align training efforts with advocacy and outreach. Build inclusive, community-led training initiatives.
Trainers and Facilitators within the Infrastructure	This type of stakeholders may work for the research infrastructures, in National Nodes, or have project-funded roles.	Reuse and remix modular content. Localize delivery methods based on learner needs.

Everyone has a specific role and a specific need

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Characteristics of the training framework

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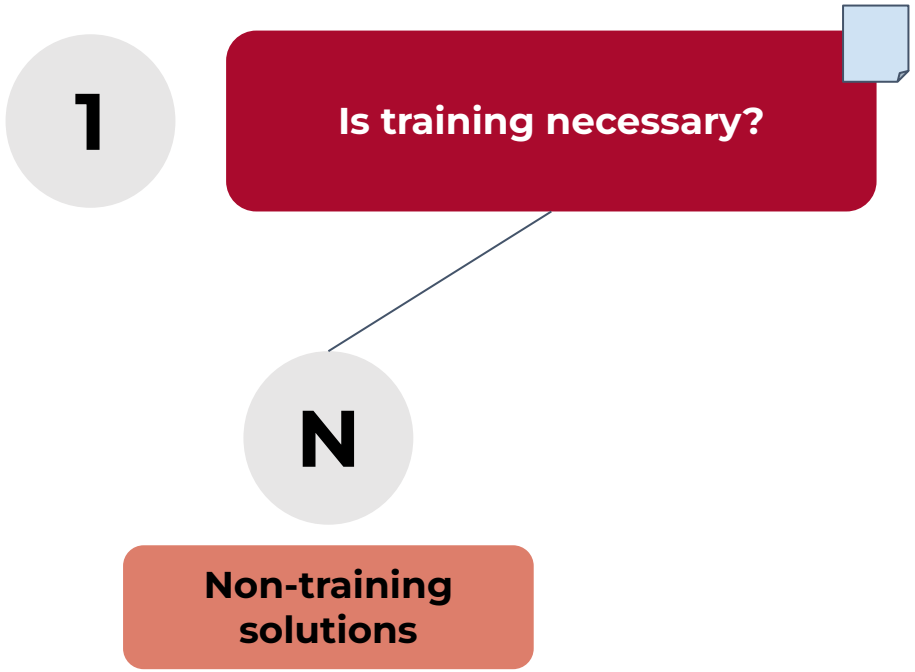
Feature of the Framework	Benefits
Modular Structure	Customize content by audience, domain, or depth of knowledge
Flexibility	Support self-paced and synchronous, short or in-depth formats
Open Licensing	Enable reuse, localization, and continuous improvement
Pedagogical Guidance	Ensure training is effective even for non-expert facilitators
Common Vocabulary & Structure	Promote collaboration and reduce fragmentation of effort

Toolkit for training development

- Based on ADDIE approach (Analysis, Design, Development, Implementation, Evaluation)
- Higher-level guideline to assist training designers and instructors in producing training
- Prepare a toolkit: a series of 16 articles and 11 guides and checklists

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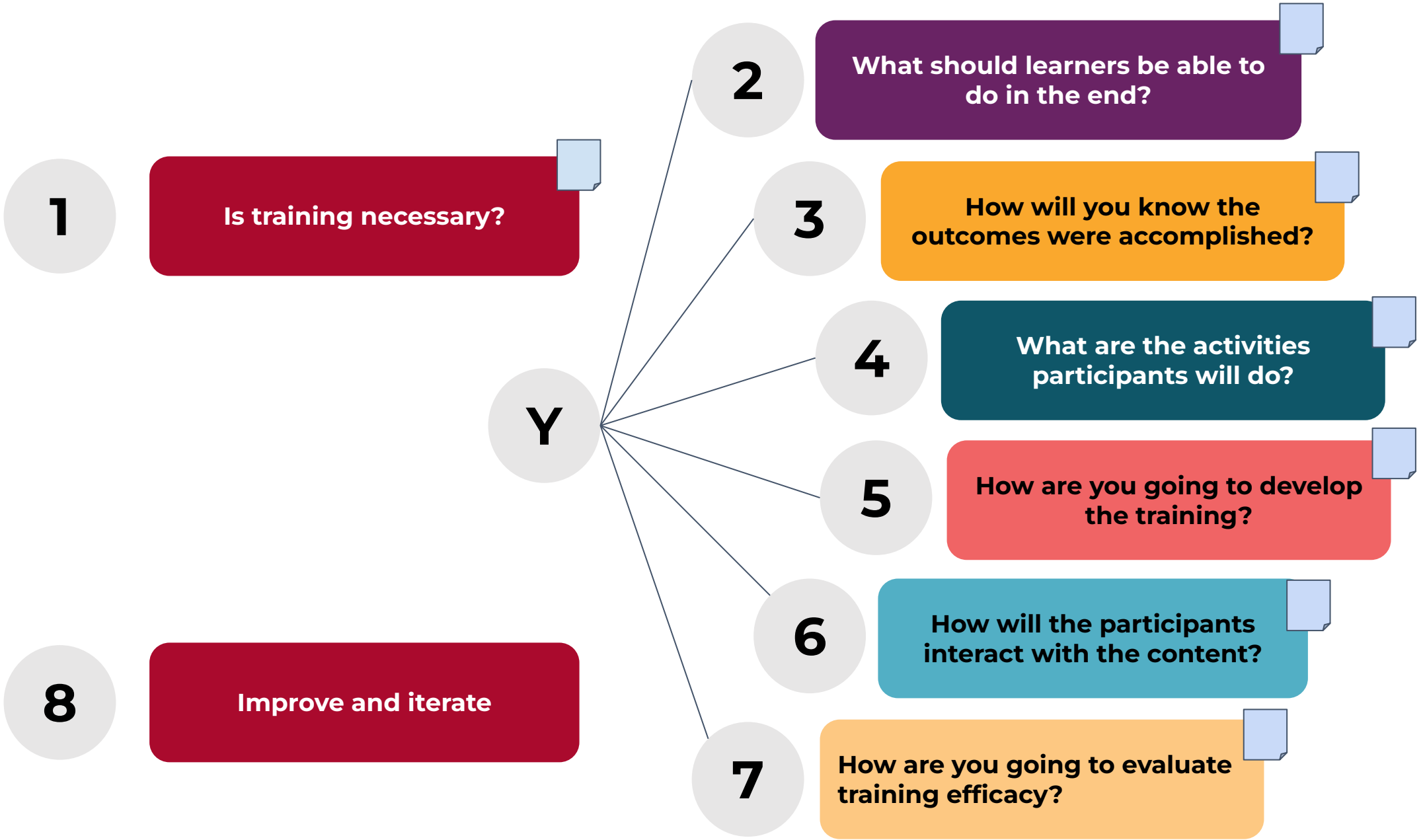
Is training necessary?

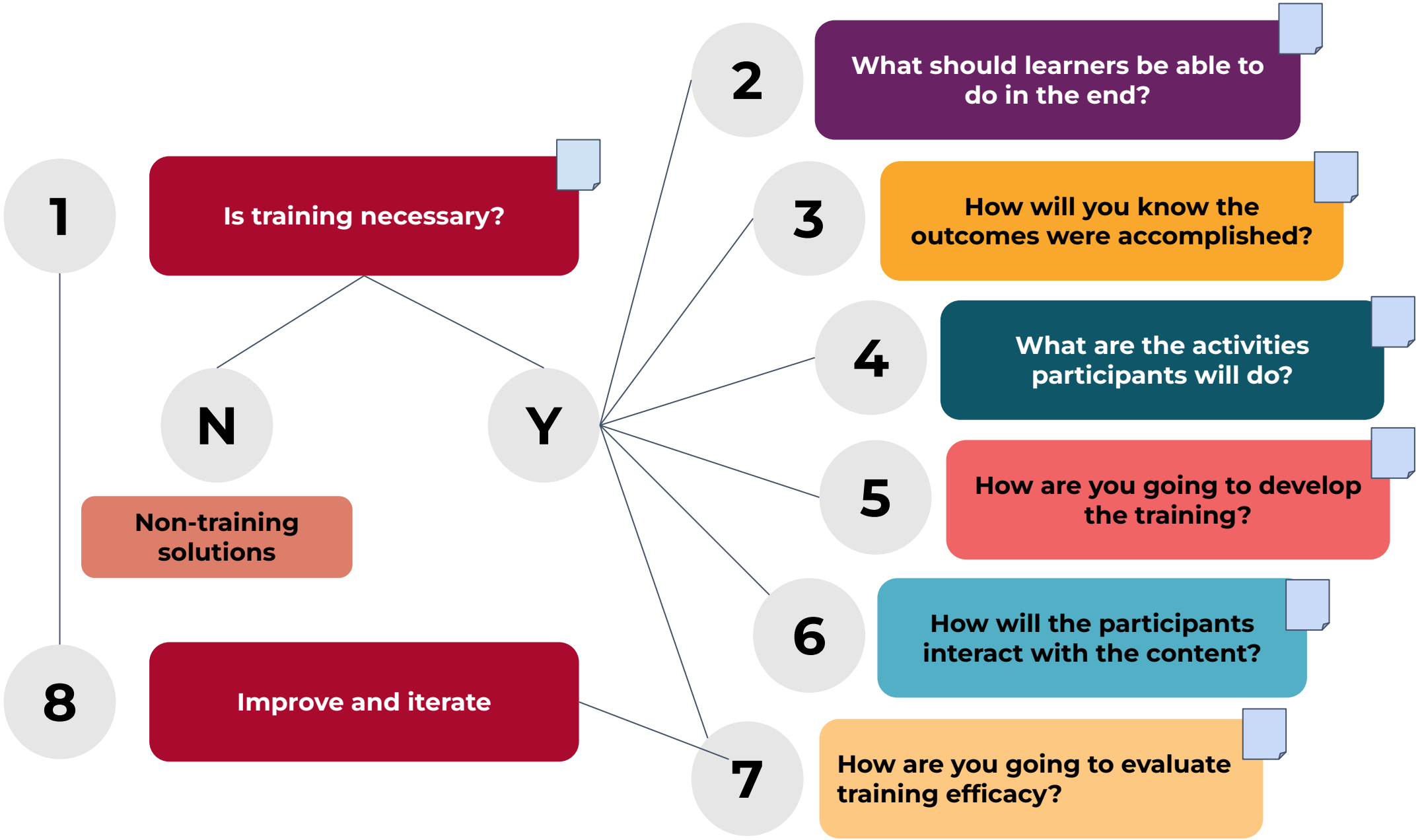

1
Is training necessary?
N
Non-training solutions

1

Is training necessary?

Y


1
Is training necessary?
2
What should learners be able to do in the end?
3
How will you know the outcomes were accomplished?
4
What are the activities participants will do?
5
How are you going to develop the training?
6
How will the participants interact with the content?
7
How are you going to evaluate training efficacy?
8
Improve and iterate
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Framework Category	Article Title	Templates
Analysis	Types of analysis	Needs analysis
	Needs analysis	
	Data sources	
	Learner's analysis	Learners analysis
	Task analysis	Task analysis
Design	Learning outcomes	Learning outcomes
	Effective Learning outcomes	
	Learning objectives or learning outcomes	
	Assessment methods	Assessment
	Learning experience	Learning experience
	Alignment and blueprint	Alignment
	Backward design	Course blueprint
	FAIR-By-Design methodology	
Development	Training development	Training development checklist
Implementation	Training implementation	Training implementation checklist
Evaluation	Evaluation	Evaluation
	Designing evaluation questions	

Collaboration checklist

ADDIE Stage	Key Goals	Possible Collaborators	Checklist
Analyze	Identify training needs, learner profiles, and context	Researchers, data stewards, community leads, National Nodes representatives, institutional partners	☐ Have we consulted key stakeholders to identify needs? ☐ Have we documented learner personas and goals? ☐ Are data collection tools shared and transparent?
Design	Define learning objectives, training structure, and methods	Instructional designers, accessibility experts, subject matter experts, trainers, OS officers	☐ Are learning outcomes co-developed? ☐ Have we aligned methods with learner needs? ☐ Are roles for design clearly assigned?
Develop	Create and review content, tools, and resources	Content creators, technical staff, translators, reviewers	☐ Is content development distributed? ☐ Are contributions peer-reviewed? ☐ Is the development process documented and versioned?

Collaboration checklist

ADDIE Stage	Key Goals	Possible Collaborators	Checklist
Implement	Deliver and facilitate the training effectively	Trainers, facilitators, national nodes representatives, communication officers	☐ Are delivery responsibilities shared? ☐ Is infrastructure in place for joint implementation? ☐ Are feedback channels open?
Evaluate	Collect feedback, assess impact, and improve training	Evaluators, quality assurance staff, trainers, learners	☐ Are evaluation metrics co-defined? ☐ Is impact data shared across partners? ☐ Have we planned a joint review or reflection?

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Metrics, evaluation and monitoring

Topic	Goal	Example
Consistency and quality	Ensures training is well-structured, coherent, and aligns with pedagogical and content standards	percentage of training modules following the framework structure; peer-review score for content quality; alignment of learning outcomes to content and assessment; learner satisfaction with structure and clarity
Flexibility and modularity	Enables adaptation, localization, and reuse of components.	percentage of materials available in self-contained modules or the number of training sessions using customized/adapted versions
Scalability and reuse	Enables wider adoption across institutions, regions, and domains.	number of services with a training programme; number of National Nodes using the framework; number of downloads form a repository; number of trainers trained or certified

Metrics, evaluation and monitoring

Topic	Goal	Example
Inclusivity and accessibility	Ensures that training is usable and welcoming for all learners, regardless of background or ability.	percentage of content available in multiple languages; number of outreach events targeted to underrepresented groups; percentage of content with accessibility features (alt text, captions, transcripts)
Impact and uptake	Tracks how the training influences learner behavior and institutional practice.	percentage of learners reporting behavior change (e.g., more service users, less mistakes when doing tasks, etc.)

Overview of the Training Framework

1. Understanding the context: OS, RDM, FAIR for SSH; Diamond OA; service end-users
2. Establishing a methodology: targets and needs; a solution applicable to all; production of the framework/toolkit
3. Outline of the toolkit: articles; guides and checklists
4. Openness of the resources: OER and FAIR-by-design methodology
5. Develop training for services
6. Establish collaborations
7. Establish metrics and evaluate and monitor the training framework
8. Develop scalability and sustainability strategies

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Currently

- The framework was used in OPERAS services ambassadors programme



Avanço, K. (2025). Framework for the development of open science and scholarly communication training (OPERAS-PLUS Deliverable 6.3) (Version v1.0 Draft). Zenodo. https://doi.org/10.5281/zenodo.16970400



Thank you for your attention!



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open scholarly communication in the european research area for social sciences and humanities





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