HELMHOLTZ
Metadata Collaboration

Best Practices in Developing Cross-Domain Training Materials

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Talking about Education Across Communities at Helmholtz (TEACH 4)

November 21, 2024

HIDA Hub, Berlin

Who are we?

Dr. Hamideh Haghiri

BSc: Medical Records

MSc: Digital Health

PhD: Health Information Management

Experience:

- Health Information Expert
- Medical Coding Trainer
- Metadata Training Expert

Dr. Özlem Özkan

BSc: Computer Education

MSc & PhD: Medical Informatics

Experience:

- METU Research Assistant,
- KPMG Data Scientist,
- MDC Research Data Manager,
- HMC Data Policy Expert &
- Training Officer

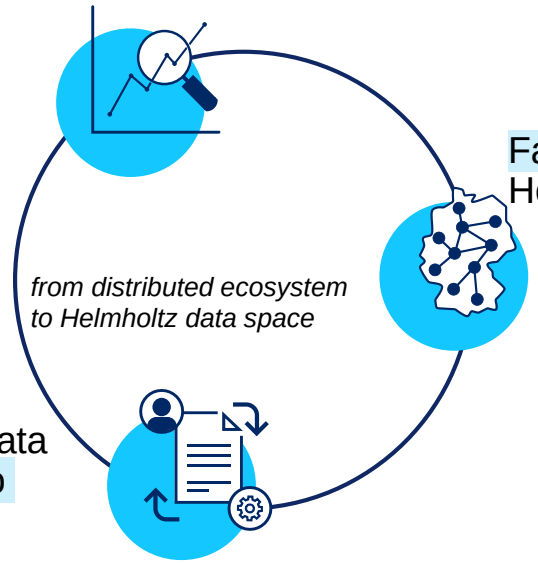
Helmholtz Metadata Collaboration

Making Helmholtz data treasures visible!

There are 6 domain specific hubs for each research field:

- **Matter**
- Energy
- Earth and Environment
- **Health**
- Aeronautics, Space and Transport
- Information

Assessing and monitoring the state of FAIR data across Helmholtz



Facilitating connectivity of Helmholtz research data from distributed ecosystem to Helmholtz data space

Transforming (meta)data recommendations into implementations

Outline

1. Introduction & Overview (10 minutes)
2. Case Study Presentation: Adapting the 'Fundamentals of Scientific Metadata' Course (3 minutes)
3. Interactive session: what are advantages and disadvantages of adaption? (15 minutes)
4. Adaptation Steps Model (2 minutes)
5. Interactive Session: Assessing Relevance and Clearance of the Adaption Model (20 minutes)
6. Discussion & Wrap-Up: Key Takeaways (10 minutes)

Name,

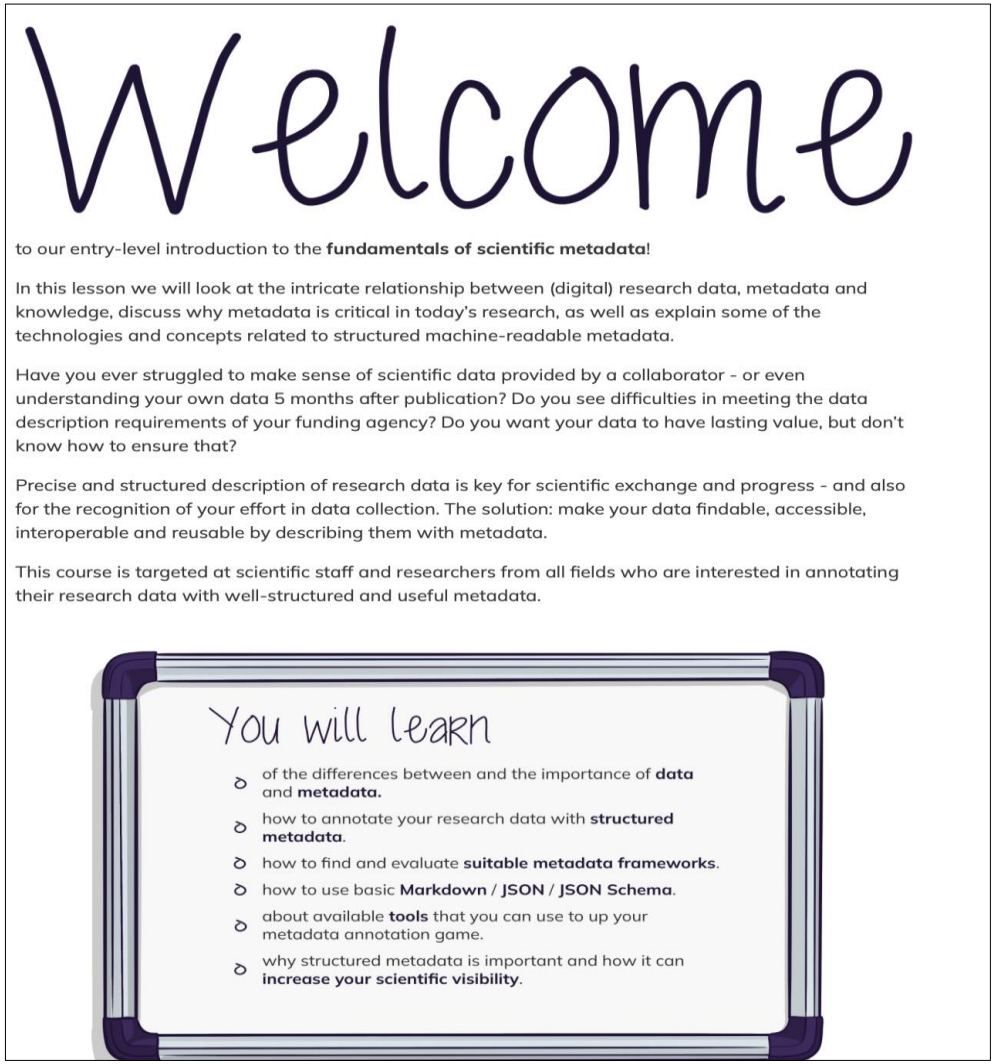
Background,

Experience in training (how long)?

Case Study: Adapting the 'Fundamentals of Scientific Metadata' Course

The "Fundamentals of Scientific Metadata" course has been developed in 2023 (Gerlich et al.).

- Entry-level introduction to metadata.
- Targeted at scientific staff and researchers from all fields who are interested in annotating their research data with well-structured and useful metadata.
- Adapted to Materials Science, Research Field Matter and will be adapted to Health.



Case Study: Adapting the 'Fundamentals of Scientific Metadata' Course

Lesson learned during adaptation to different domains. Cross-domain training **must be modular and adaptive content:**

- Have **structured content** into **modules**
- Have **templates** for consistency
- Have adaptable **case studies** and **examples**
- Use **flexible language**

Original Text

Metadata is data that provides information about other data. It helps users understand, locate, and manage data efficiently.

Metadata Examples: descriptions, data types, timestamps, and creator information.

Adapted for Computer Science

???

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Concepts:

- Definition
- Role
- Example

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Adapted for Computer Science

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Metadata Examples: file formats, coding language, and system requirements enable compatibility checks and version control, which are essential for software development and data integration.

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Adapted for Health Science

Metadata is data that provides information about other data. In health science, metadata is essential for ensuring the accuracy and reliability of medical data.

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Adapted for Health Science

Metadata is data that provides information about other data. In health science, metadata is essential for ensuring the accuracy and reliability of medical data.

Metadata Examples: patient demographics, data collection protocols, and measurement units

Interactive Session

Imagine you're tasked with training researchers on a topic. You’re provided with an adaptable course materials on that topic; however, they were originally developed for a different research domain.

Please choose one of the following options:

- I customize the existing materials to suit my specific research domain.
- I conduct my own research and create new content from scratch.

Now, please divide into two groups. Using the boards, list the **Advantages** and **Disadvantages** of each approach:

- **Group 1**: Focus on “Adapting Existing Materials”
- **Group 2**: Focus on “Creating New Materials from Scratch”


Conduct Initial Content Analysis
Objective: Identify the essential concepts in the original content
Search on Concepts and Consult Domain Experts or Stakeholders
Objective: Find the domain specific concepts and gather input on how concept is used within specific domains to ensure relevance.
Assess Audience Knowledge and Needs
Objective: Understand the audience's familiarity with the concept and their specific application needs.
Simplify Language and Focus on Core Points
Objective: Remove non-essential details and adapt language for accessibility in each field.
Replace General Examples with Domain-Specific Ones
Objective: Substitute generic examples with those directly relevant to each field to enhance comprehension and engagement.
Pilot and Gather Feedback
Objective: Test the adapted content with representatives from the field to ensure clarity and relevance
Review for Clarity and Relevance
Objective: Ensure the content is clear, jargon-free, and aligned with field-specific concerns.
Document Adaptation Process
Objective: Record the specific changes made to the original content and the reasons for choosing certain examples and terms.

Activity: Assess Relevancy

- Please use colored stickers to vote


Green: Relevant


Yellow: Somewhat Relevant


Red: Not Relevant

Activity: Assess Clearness

- Please use colored stickers to vote

Green: Clear

Yellow: Somewhat Clear

Red: Not Clear

Interactive Session

- Discuss the Red stickers and suggest alternatives
- Vote again

Discussion & Wrap-Up

- Take a look at the Final Model: Steps for adaption
- Review of Key notes