Research Data Management
for young researchers & PhD students
the case of Essentials on RDM MOOC

Pedro Príncipe, University of Minho | 26 May 2021 | FAIRsFAIR Workshop

OPEN SCIENCE @ UMINHO

NAU is an online project, pioneering at Portuguese national level, to support education and training, aimed at large audiences.

The NAU platform is a service developed and managed by the FCCN Unit of the **Foundation for Science and Technology (FCT)** that allows the creation of courses in MOOC format, courses open and accessible to all, produced by recognized and relevant entities in society.

www.nau.edu.pt/

This platform is part of the transversal actions of the Portugal INCoDe.2030 initiative by **promoting digital development, digital inclusion and literacy, education and qualification of the active population.**

1st edition

5 Dec. 2019

8 Jun. 2020

2nd edition

27 Nov. 2020

30 Jun. 2021

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1608 participants
430 certificates

1923 participants
548 certificates

www.nau.edu.pt/pt/curso/o-essencial-da-gestao-de-dados-de-investigacao/

THE COURSE

FORMAT

6 Modules with around **30 hours** effort rate

Contents: Text, videos, diagrams with CC-BY license

Evaluation: tasks and quizzes

Accessibility and Usability was taken into consideration during the course development.

TARGET

It's aimed first at **researchers and doctoral students** - providing the basic knowledge and skills to start managing their research data.

But also useful to **other professionals** who support research data management activities.

Research Data Management MOOC

MOOC ESSENCIAL GDI

GOALS

- Understand the **diversity of research data** and its management needs;

- Gain basic skills for developing data management plans;

- Get to know the policies and requirements of the main **science funders** in Portugal;

- To become familiar with **best practices** when working with data, from data set up and documentation, to data storage;

- Get to know the **tools available** for data sharing, including depositing processes in open repositories and other data storage services;

- Identify the **legal issues** related to licensing, data protection and ownership.

COURSE MODULES

1 - Introduction to Research Data Management and FAIR data

2 - Data Management Plans

3 - Documenting and organizing data
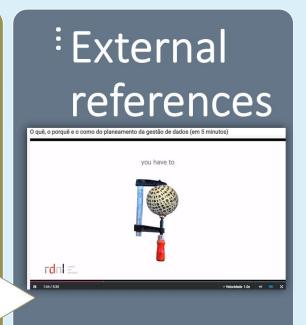
4 - Data licensing and data protection

5 - Sharing and depositing data in repositories

6 - Funders requirements for data sharing and publishers policies for data availability

MOOC

Essential

External references

Digitalbevaring.dk

Digitalbevaring.dk

BENEFÍCIOS DOS DADOS ABERTOS

Investigadores	Financiadores	Público em geral
• maior capacidade de descoberta • maior eficiência • atrai financiamento e apoio • novas colaborações	• maior visibilidade e reutilização da investigação financiada • maior impacto financeiro • maior retorno do investimento	• autocapacitação • maior transparência • maior envolvimento na ciência e educação

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File formats extensions for reusability/preservation:

Type of data	APPROPRIATE	ACCEPTABLE	NOT SUITABLE
Tabular data with extensive metadata	.csv - .hdf5	.txt - .html - .tex - .por	
Tabular data with minimal metadata	.csv - .tab - .ods - SQL	.xml if appropriate DTD - .xlsx	.xls - .xlsb
Textual data	.pdf - .txt - .odt - .odm - .tex - .md - .htm - .xml	.pptx – PDF with embedded forms - .rtf	.doc - .ppt
Code	.m - .R - .py - .iypnb - .rstudio - .rmd – NetCDF	.sdd	.mat - .rdata
Digital image data	.tif - .png - .svg - .jpeg	jpg - .jp2 - .tif - .tiff - .pdf – GIF - BMP	.indd - .ait - .psd
Digital audio data	.flac - .wav - .ogg	.mp3 - .mp4 - .aif	
Digital video data	.mp4 - .mj2 - .avi - .mkv	.ogm - .webm	.wmv - .mov
Geospatial data	NetCDF, tabular GIS attribute data, .shp - .shx - .dbf - .prj - .sbx - .sbn – PostGIS - .tif - .tfw -GeoJSON	/.mdb/.mif/	
CAD/vector and raster data	.dwg - .dxf - .x3d - .x3dv - .x3db - .pdf – PDF3D		
Generic data	.xml - .json - .rdf		

"FINAL".doc

FINAL.doc!

FINAL_rev.2.doc

FINAL_rev.6.COMMENTS.doc

FINAL_rev.8.comments5 CORRECTIONS.doc

track changes

FINAL_rev.18.comments7. corrections9.MORE.30.doc

FINAL_rev.22.comments49. corrections.10.#@$%WHYDID ICOMETOGRADSCHOOL????.doc

WWW.PHDCOMICS.COM

FERRAMENTAS PARA A ELABORAÇÃO DE PLANOS DE GESTÃO DE DADOS

DMP ONLINE
https://dmponline.dcc.ac.uk/

argos
https://argos.openaire.eu/

DSW
https://ds-wizard.org

DMP Tool
Build your Data Management Plan
https://dmptool.org

easy.DMP EUDAT
https://easydmp.eudat.eu

ezDMP
https://ezdmp.org

RDMO
https://rdmorganiser.github.io/en/

Descrição de dados

ESSENCIAL GDI MOOC

Metadados administrativos
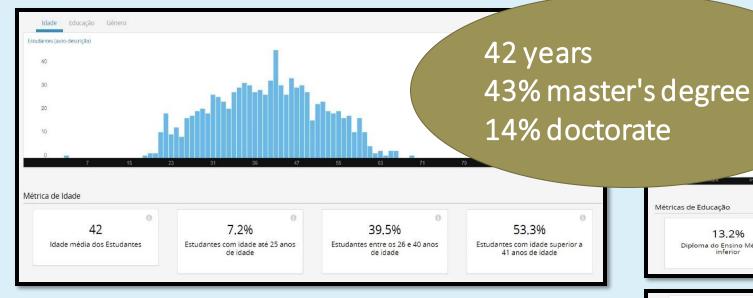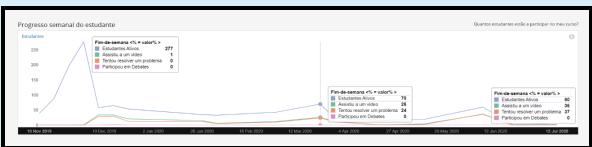*(dados técnicos sobre os formatos, …)*

Is not!

- It is not a course for specific disciplinary needs

- It is not a course for senior researchers

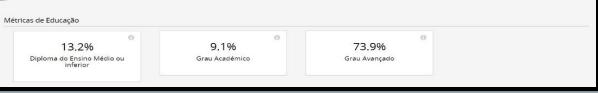- It is not a deep level course, but it details some of the more relevant areas …

- ✓ But, it is a valuable course for a general needs perception during the planning process.

- ✓ And with very practical tips for data management plans or research data setup!
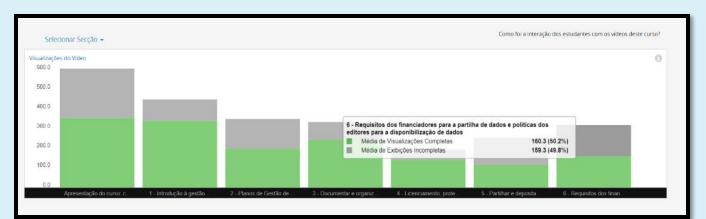
PARTICIPANTS
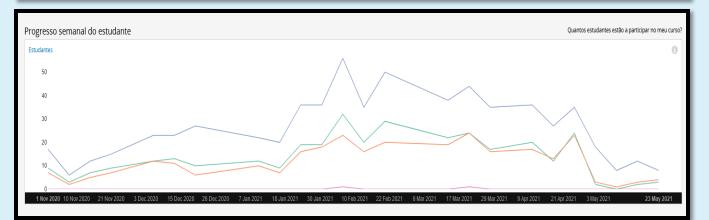
Research Data Management MOOC

MOOC **ESSENCIAL GDI**

Secretaria-Geral da Educação e Ciência

42 years
43% master's degree
14% doctorate

Portugal (70%) +
Brazil e Mozambique

Secretaria-Geral da Educação e Ciência

Universidade do Minho

EVALUATION RESULTS

ACTIVITY OF THE PARTICIPANTS

EVALUATION

Survey to assess the satisfaction of trainees who completed the MOOC (1st ed.)

430 participants = 193 responses

Degree of satisfaction: 91% "Very satisfied" or "Fully satisfied".

Usefulness for professional performance: 46% indicate that it was "Very useful" and 34% with "High Usefulness".

LESSONS LEARNED

FORMAT

➤ **Relevance of good videos and graphics to achieve a better impact.**

➤ **Short blocks of content.**

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Result to prepare the 2nd ed: = Revise the duration of some modules.

CONTENT

➤Clear content structure.

➤Brief blocks of content.

➤Some difficulty in preparing quality quizzes for different modules.

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2nd ed.

Clarify language in some of the modules.

Make the evaluation process clearer.

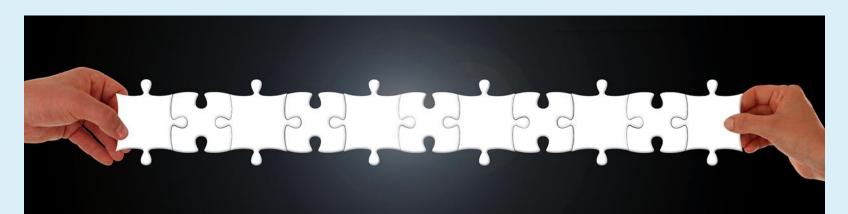**Update useful links. Introduce FCT news.**

LESSONS LEARNED
some remarks from the interaction/discussions in training workshops

IMPACT & UPTAKE

➢ **This type of training resources and content (the basics) is very much needed in Universities (HEIs).**

➢ **Generic content is important, but more discipline-specific content is also needed (embedded in doctoral programmes).**

POLICY & INFRASTRUCTURE FRAMEWORK

➢**The MOOC has fulfilled an important function in basic training.**

➢**But this training lacks a framework of policies, infrastructures and tools available.**

➢ **Tools are needed to provide clear context, guidance and accomplishment of learning tasks.**

COMPONENTS OF THE STRATEGY FOR RESEARCH DATA MANAGEMENT AT UNIVERSITY OF MINHO (2018)

Policies (OA, OS, RDM) at UMinho

Infrastructure - systems and services

- Data Box UMinho
- Open Data RepositóriUM
- Data Catalogue
- Software RepositóriUM
- Data vault

Tools

- Online Data Management Plans
- License selector
- Metadata and documentation
- Digital Object Identifier register

Training

- Library training actions (OS cafés)
- Open Science e-learning courses
- Data Champions best practices sessions
- Practical courses for Data Science
- RDM in post-graduate training

Licenses, data protection and intellectual property (support and consulting)

Thank you!

Pedro Príncipe

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Serviço de Documentação e Bibliotecas