Research Data Management Competency Framework

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Introduction

NFDI4Objects Task Area 6, "Commons and Qualification," aims to create a **Research Data Management Competency Framework (Kompetenzrahmen)** specifically for handling data related to studying the past through its material remains. The NFDI4Objects-RDMCF will be shared with practitioners, educators, and managers as a guide for shaping training programs and job descriptions.

The framework: present and future

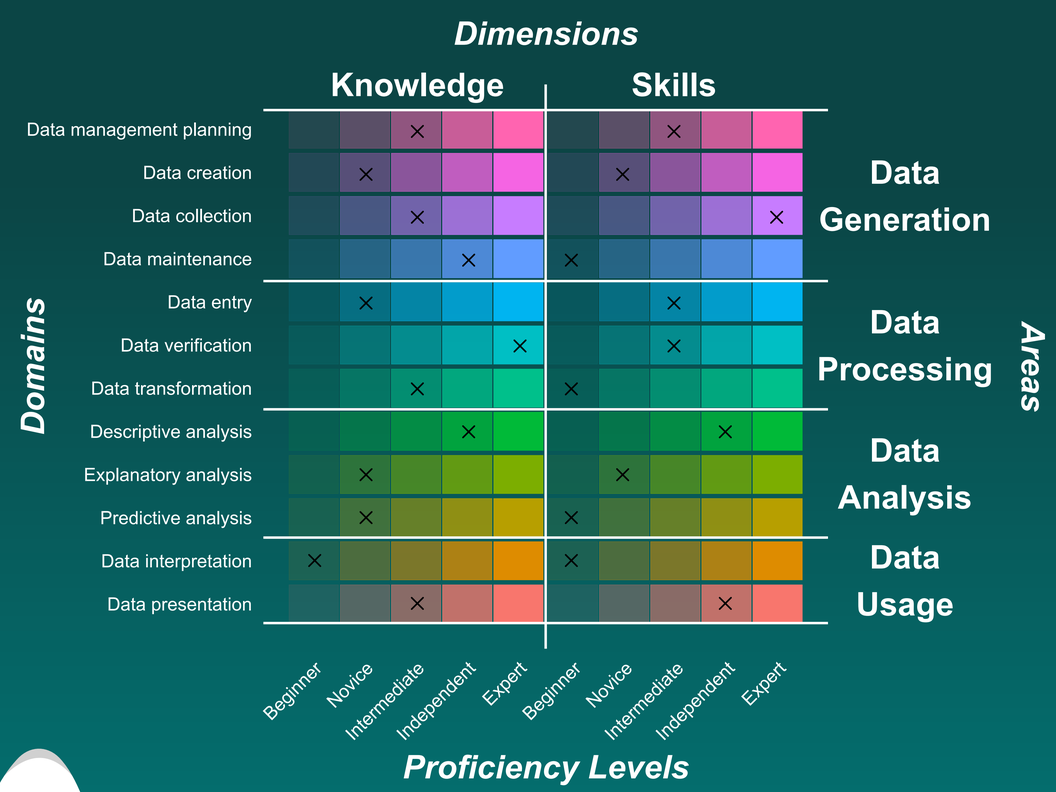
We have developed a tentative framework structure by comparing **existing frameworks** and examining a selection of courses taught in Germany from winter 2014/15 to summer 2023 from the **IANUS (Lehrangebote) dataset** (Schmidt 2024). This framework defines **competency cells** as the intersection of areas/domains, proficiency levels, and dimensions. These competency cells can be used to create **competency profiles** for courses, degrees, positions, and individuals (e.g., as a descriptor on a CV). We plan to further refine the competency cells and profiles with **feedback** from other activities and experts in the NFDI4Objects consortium.

Open and reproducible document

The NFDI4Objects-RDMCF is kept as a **HTML Quarto Book** in ***perpetual beta state***.

We call any NFDI4Objects participant or community member interested in contributing to access the repository, register and engage!
https://gitlab.rlp.net/n4o/competence_framework

Towards a better **qualification** system based on NFDI4Objects **community** expertise



NFDI4Objects – TA6

Document structure

- Introduction
- Part A: Current state
  - Existing courses and trainee programmes

Show 10 entries Search: prakt

Institution *Einrichtung*	Title *Veranstaltungstitel*	Semester	Content keywords *Inhalt*	Data Lifecycle Management
Universität Augsburg	Digitales Publizieren für KulturwissenschaftlerInnen. Einführung in XML und seine praktische Anwendung (HTML, PEI, EPUB)	WiSe 2018/19	Programmierung, Online-Ressourcen, Internet, Digitalisierung	Data creation, Data processing an, Data usage
Freie Universität Berlin	Prospektions- und Ausgrabungspraktikum	SoSe 2016		
Humboldt Universität Berlin	GIS und Gräberfelder - eine praktische Einführung	SoSe 2021	GIS	Data creation, Data usage
Ruhr-Universität Bochum	Digitalisierung im Museum: Praktische Anwendungen	WiSe 2020/21	3D-Modellierung, Software und Tools, Visualisierung, 3D Scan, Digitale Dokumentation, Digitalisierung	Data creation, Data processing an, Data usage, Data archiving, Data destruction

  - Analysis

- Part B: Derivation of the competence framework
  - Existing Frameworks
    - US National Institute of Health NIH and Office of Human Resources (2017)
    - WHO Western Pacific (2023)
    - Schüller, Busch ·, and Hindinger (2019)
    - Petersen et al. (2023)
  - Comparative synthesis of existing frameworks
- PART C: NFDI4Objects Competency Framework
  - Framework structure and components

    ⟵ **(chapters per Competency Area)**
  - Attitudes
- Recommendations

References

"IANUS - Forschungsdatenzentrum Archäologie & Altertumswissenschaften." n.d. Accessed February 20, 2024. https://ianus-fdz.de/lehrangebote/.
Petersen, Britta, Claudia Engelhardt, Tanja Hörner, Juliane Jacob, Tatiana Kvetnaya, Andreas Mühlichen, Hermann Schranzhofer, et al. 2023. "Lernzielmatrix Zum Themenbereich Forschungsdatenmanagement (FDM) Für Die Zielgruppen Studierende, PhDs Und Data Stewards." Zenodo. https://doi.org/10.5281/zenodo.8010617.
Schmidt, Sophie C. 2024. "SCSchmidt/ArchIT-LV_analysis: Preprint." Zenodo. https://doi.org/10.5281/zenodo.10498365.
Schüller, Katharina, Paulina Busch ·, and Carina Hindinger. 2019. "Future Skills: Ein Framework Für Data Literacy." Zenodo. https://doi.org/10.5281/zenodo.3349865.
US National Institute of Health NIH, and Office of Human Resources. 2017. "Competencies Proficiency Scale." Text. *National Institutes of Health, Office of Human Resources*. https://web.archive.org/web/20240425101205/https://hr.nih.gov/working-nih/competencies/competencies-proficiency-scale.
WHO Western Pacific. 2023. *Data Management Competency Framework*. Manila: World Health Organization Regional Office for the Western Pacific. https://www.who.int/publications-detail-redirect/9789290620099.