Empowering Educators and RDM Professionals: A Trainer Tandem [blinded] Approach to Teaching Subject-specific Data Literacy

In the ever accelerating context of digitalisation and the ongoing paradigm shift towards open science, the expectations on research data management (RDM) are constantly increasing. Consequently, data literacy poses as a vital skill that should be imparted to various status groups with a focus on students at the outset of their careers. Given this background, the development of individual skills in RDM as well as the training of multipliers is becoming more and more important. This issue becomes even more pressing as especially subject-specific characteristics of disciplines should be considered and there is a limited number of staff possessing both RDM knowledge and subject-specific expertise.

In this presentation, we discuss how to address this shortcoming by empowering RDM professionals and educators in imparting subject-specific data competency. This approach has been developed in the domain of health and care-related sciences, in which the processing of sensitive personal health data necessitates meticulous planning of data collection, processing, storage and publication. To safeguard the confidentiality of research participants and the integrity of research data, it is imperative to ensure that students, as prospective young researchers, are familiar with the principles of responsible RDM. This skill should be tailored to align with the requirements of their respective academic discipline. With the aim of integrating student education and the training of RDM staff and university educators, the trainer tandem is embedded within a specialized student training program: the [blinded] 'spring school'. Both approaches have been developed and piloted within the [blinded] project. As an extracurricular course, the spring school offers a comprehensive introduction to RDM for bachelor’s and master’s students and does not require any prior knowledge. The course addresses the entire research data lifecycle and consists of five three-hour units. A direct application through discipline-specific use cases enhances the mix of both theoretical and practical didactic methods used in each session.

The spring school is overseen by a team of instructors, who are referred to as 'pilots' and 'co-pilot'. These individuals are responsible for ensuring the students' success in their learning outcomes and fulfil distinct roles in the education process. The pilots possess mainly generic expertise in RDM, assume a guiding role by designing the learning content, preparing materials and taking the lead in knowledge transfer. Furthermore, they share their knowledge with the co-pilot. The co-pilot is primarily supportive and plays an instrumental role in the application-related exercises. Subject to prior agreement, the co-pilot has the opportunity to deliver topic-specific presentations during the spring school, depending on individual interest and professional background. This mutually beneficial collaboration empowers staff who have previously acquired basic RDM skills in developing the teaching abilities necessary for delivering subject-specific RDM content in the respective disciplines adressed. The co-pilot thus falls into one of two categories. (1) lecturers who contribute their professional subject-specific expertise to the spring school. (2) professionals such as research data officers working in the central structures of the university. In both cases, the co-pilot has already acquired generic RDM knowledge, which they had obtained, for example through a two-day 'train-the-trainer workshop on research data management' (Biernacka et al., 2023). However, the co-pilot has limited experience delivering RDM knowledge in an educational context. The trainer tandem has been developed to address this need. By collaborating closely with the pilots, the co-pilot operates within a structured and secure environment that enables the practical application of previously abstract knowledge. This hands-on experience not only deepens the understanding but also strengthens the didactic skills of the co-pilot. The trainer tandem also ensures that participants receive close support during the spring school. In this setting, the co-pilot plays a pivotal role in the supervision process and contributes significantly to the highly interactive implementation of the RDM curriculum. This encompasses the

guidance of small groups and the provision of responses to the queries posed by participants. In cases where further information is required, the co-pilot is responsible for either providing it independently or undertaking the necessary research to make it available during the event. Aiming to enable the co-pilot to take first independent steps in the practice of educating RDM, the programme encompasses both onboarding and an introduction to the didactic concept of the spring school, in addition to detailed feedback and ongoing support.

The approach that has been presented herein functions as a supplement to existing generic train-the-trainer concepts (Biernacka et al., 2023; Schreyer et al., 2023). It has been initially implemented in the context of a face-to-face lecture week in March 2025. Although the trainer tandem is embedded into a subject-specific approach that has been tailored to the requirements of health and care-related sciences, it maintains a level of generalizability that allows for its application across other disciplinary contexts. To the best of our knowledge, a distinctive feature of the presented approach lies in its direct engagement of staff in training directly with the future target group. This contribution aims to provide insights into the concept of the trainer tandem and its connection to the spring school including its various didactic features. It also reports on initial learnings from the pilot programme and explores visions for prospective implementation and further development.

References

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