Best Practice:

Documentation of Research Data as Part of Existing Courses at Universities

The curriculum of study programmes at universities encompass a broad range of topics, that are intended to prepare students for their future tasks. The main focus of teaching is to impart the basics of the subject in lectures and to introduce students to methods of data acquisition and analyses during practical courses and seminars.

In contrast, the further management of the acquired data, e.g. the storage and appropriate documentation, are often not a major focus in classes. In many cases, specific courses regarding this topic are not part of the regular curriculum. General courses regarding research data management cannot go into the details of discipline-specific requirements and resources.

Thus, the topic should ideally be integrated into study programmes of the different faculties at an early stage. In this Best Practice, we want to present you with one example of how the implementation into existing courses can work.

Documentation of research data in microbiological lab courses

Prof. Dr. Christian Jogler

For Christian Jogler, professor for Microbial Interaction at the Friedrich Schiller University Jena, the appropriate documentation of research data is an important part of the training of students. The researcher changed from the Radboud University Nijmegen (Netherlands) to Jena in 2019.

Besides the methodological approaches for data acquisition and analysis, the documentation of data is an important part of his courses. The results of experiments conducted by his students in practical lab courses are documented in lab notebooks, in accordance with the standards of the field. The required background information is introduced in the courses.

Currently, classical paper lab notebooks are being used for this, but in the future Prof. Jogler would like to provide students with electronic lab notebook (ELN) software in order to get them used to handling them. He regards experiences with modern documentation systems as a crucial qualification for the future job market, even outside of a scientific career. For the researchers in his working group as well as students that do their thesis in his lab he already provides an ELN.

Besides documentation, the selection and processing of the acquired data for publication are also important aspects in the training of the students. Therefore, the final reports for the courses are prepared as if they were scientific publications.

Christian Jogler likes to emphasize the fact that skills in documentation and research data management are essential for graduates since they are often expected by employers in research, but they are also valued outside of academia. Besides the benefits for the students, he also sees benefits for research institutions. The early training of students enables them to perform more independent research and to write their own publications. In addition, data from practical courses that could be used for scientific publications already fulfil the requirements of good documentation.

Although the requirements regarding documentation of research data and data management differ between the disciplines, the example shows how the implementation of these topics into existing courses can work. The representatives of the Thuringian Competence Network Research Data Management at the Thuringian Universities can support you in the implementation process, if you need any assistance.

Best Practice

Do you have any questions about this Best Practice or would you like to suggest another one?

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