



Data Management Education for Undergraduate Students in University of Eastern Finland - *Results from a Survey to Supervisors and Teachers*

University of Eastern Finland Library / Kuopio University Hospital Medical Library

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Background

- In Finland, there is a national goal by the year 2024 to enable thesis supervisor to evaluate and comment the undergraduate students' data management plans (DMPs) as a part of their supervision.

Reference: National Open Science Coordination, Federation of Finnish Learned Societies. Helsinki 2021.

[Open research data and methods. National policy and executive plan by the higher education and research community for 2021–2025. Policy component 1: Open access to research data.](https://doi.org/10.23847/isbn.9789525995480)

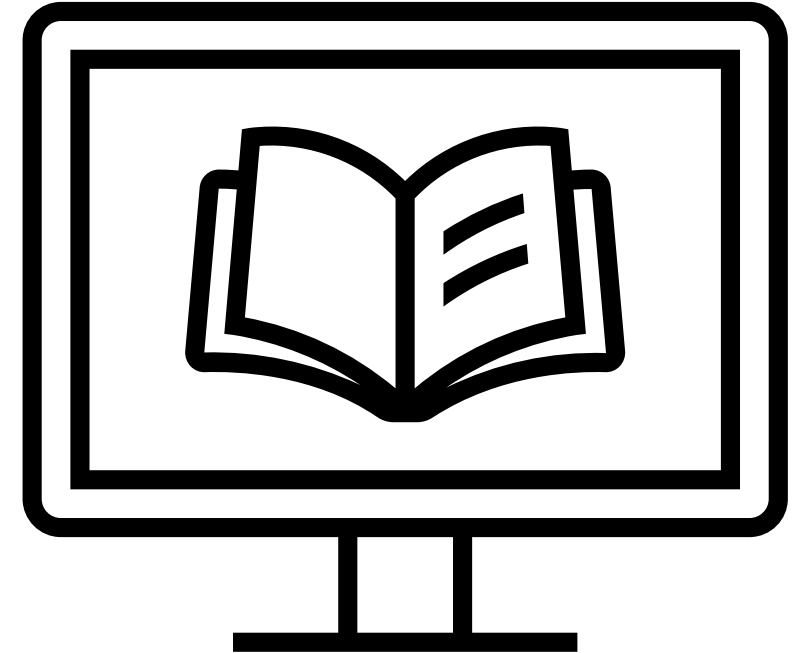
[https://doi.org/10.23847/isbn.9789525995480.](https://doi.org/10.23847/isbn.9789525995480)

- The DMP of a master's thesis is similar to what in research project but perhaps not so profound.
- DMP describes the technical and administrative handling of the data (= research data management) in a research project and at the same time it serves as a risk assessment document.
- Elements of research data management (RDM) are already naturally and even subconsciously included in thesis supervision.
- The future goal is to consider RDM as a whole, and to clarify its significance to the undergraduate students.
- RDM is considered to be a useful set of skills that graduate students will need in their future work.
- RDM is already a valid part of PhD studies but there is a need to integrate it also to undergraduate studies.



The Survey

- The purpose of the survey was to determine the current state of RDM education among undergraduate students in the University of Eastern Finland (UEF).
- UEF Library conducted the survey by Microsoft Forms® – questionnaire.
- Distributed electronically to all university teachers and other thesis supervisors.
- May and June 2022





The Survey

Consisted of five short questions that covered seven elements of RDM:

1. FAIR (Findable, Accessible, Interoperable, Reusable) principles,
2. data ownership,
3. open data,
4. data storage during the project,
5. metadata,
6. data sensitivity and data protection as well as
7. data storage/disposal after the project.

We also asked about the awareness of existing courses, where RDM was already being taught or might be well suited to teach.



The Survey

1. How familiar are you with the following areas of data management? 


	I instruct and teach myself	I know but do not teach	I know that it is taught	I do not know and do not teach
FAIR principles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data ownership	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Open data and its accessibility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data storage: (file formats, file naming, version control, secure data storage, access rights, data backup)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Metadata (description of data)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data sensitivity and data protection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data storage/disposal after the research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Courses in which I teach or know that research data management is taught?

Enter your answer

3. Would teaching of data management be suitable some of the courses you are teaching? Which ones?

Enter your answer

4. As a supervisor/teacher, I need guidance in the following areas of data management 

- FAIR principles
- Data ownership
- Open data and its accessibility
- Data storage: (file formats, file naming, version control, secure data storage, access rights, data backup)
- Metadata (description of data)
- Data sensitivity and data protection
- Data storage/disposal after the research

5. Comments?

Enter your answer

Send me an email receipt of my responses

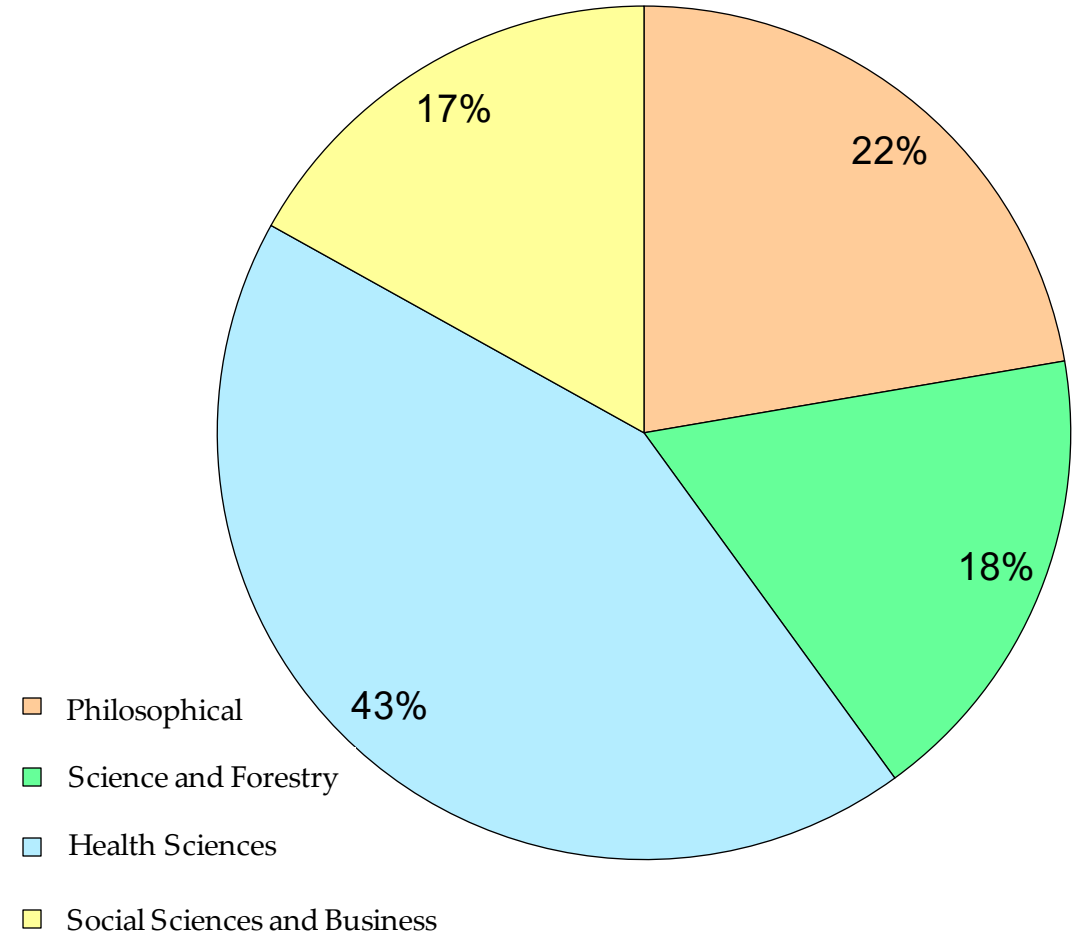
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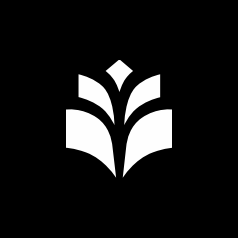
The Survey

- 130 responders
 - Faculty of Health Sciences 43 %
 - Philosophical Faculty 22 %
 - Faculty of Science and Forestry 18 %
 - Faculty of Social Sciences and Business Studies 17 %

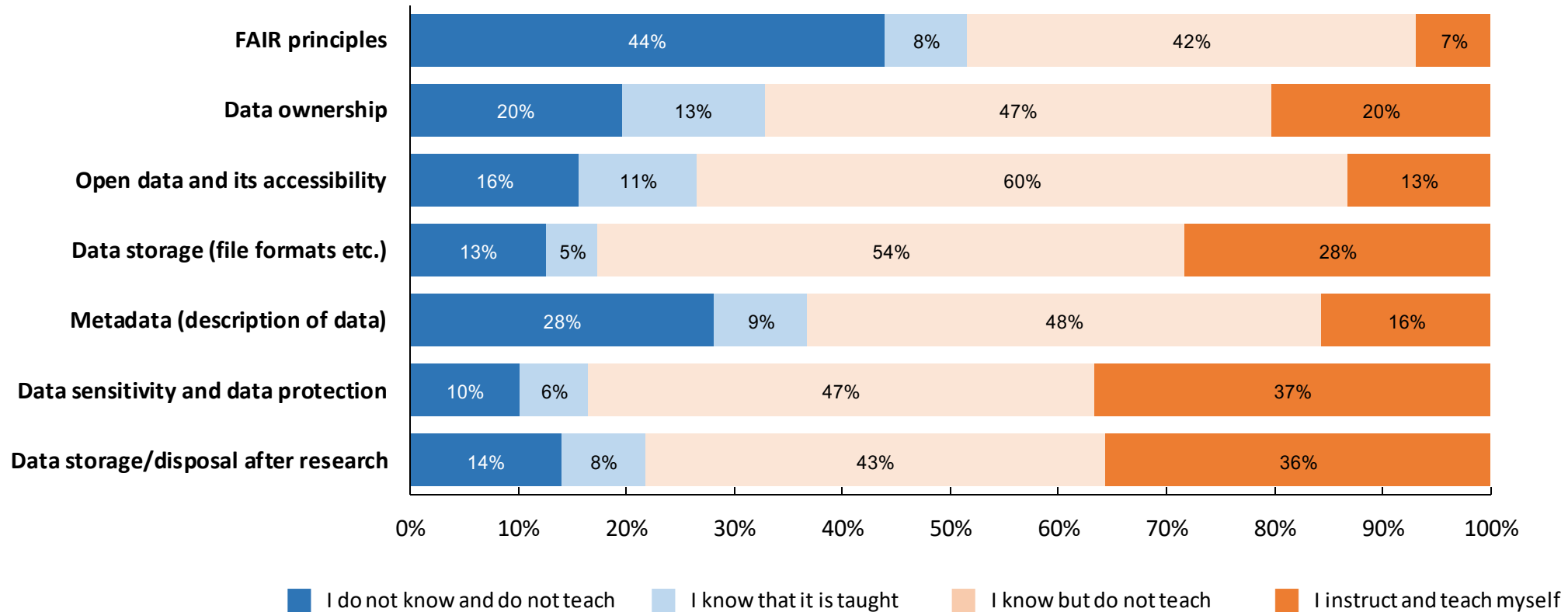
Percentage of responders per faculty
(Out of 130 responders)



Results



Question 1: How familiar are you with the following areas of data management?

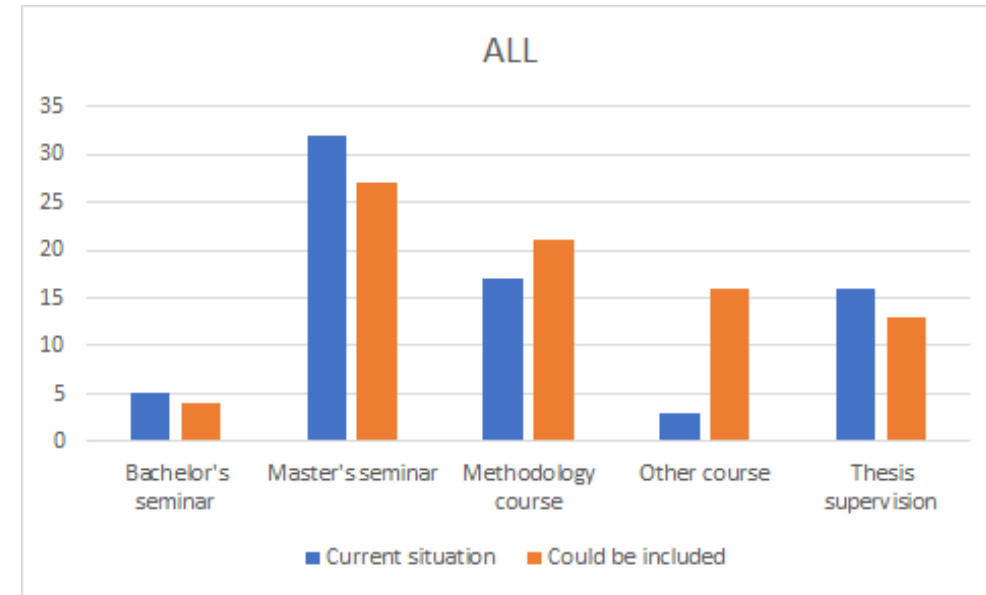
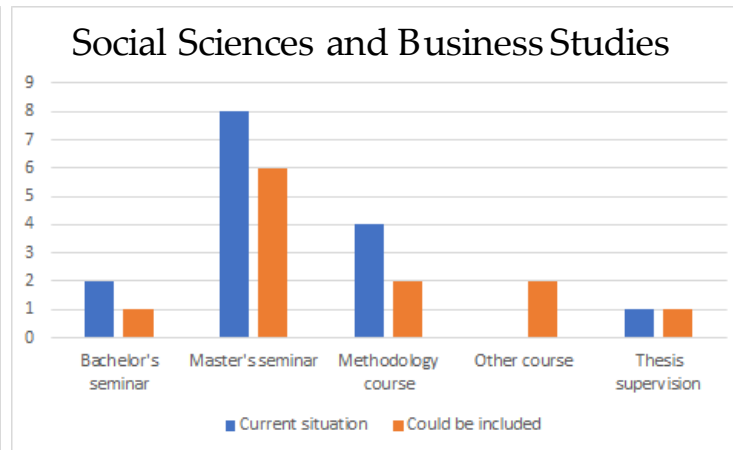
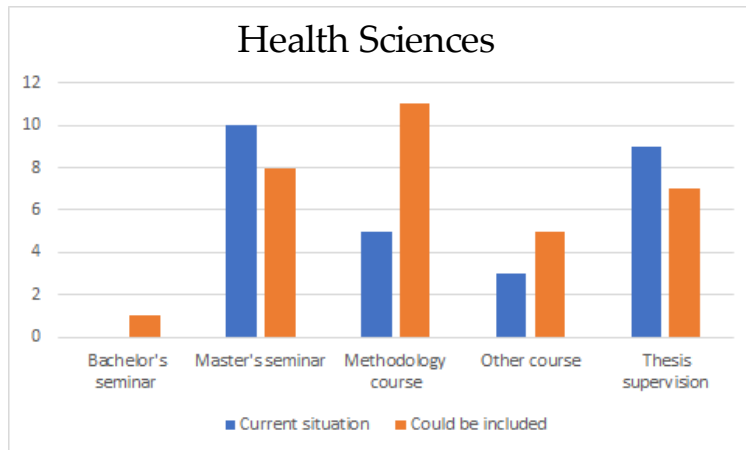
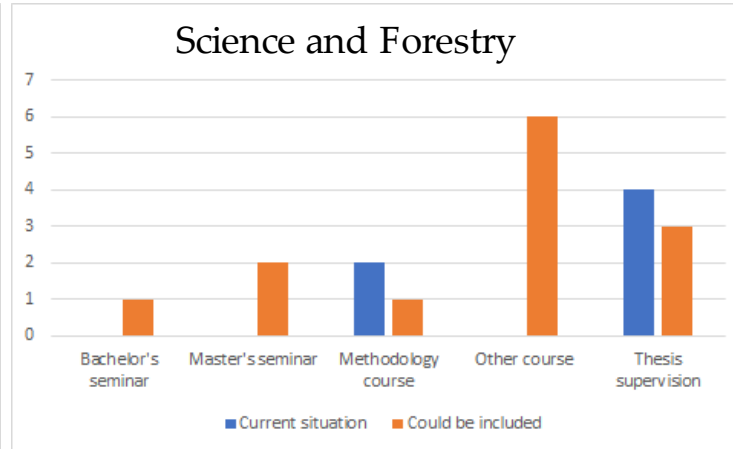
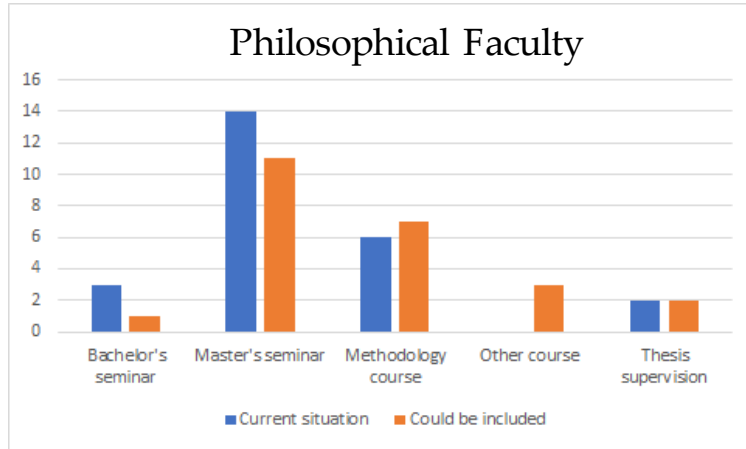




Questions 2 and 3 together

Question 2: Courses in which I teach or know that research data management is taught?

Question 3: Could data management be included in some of your subject's courses? Which ones?

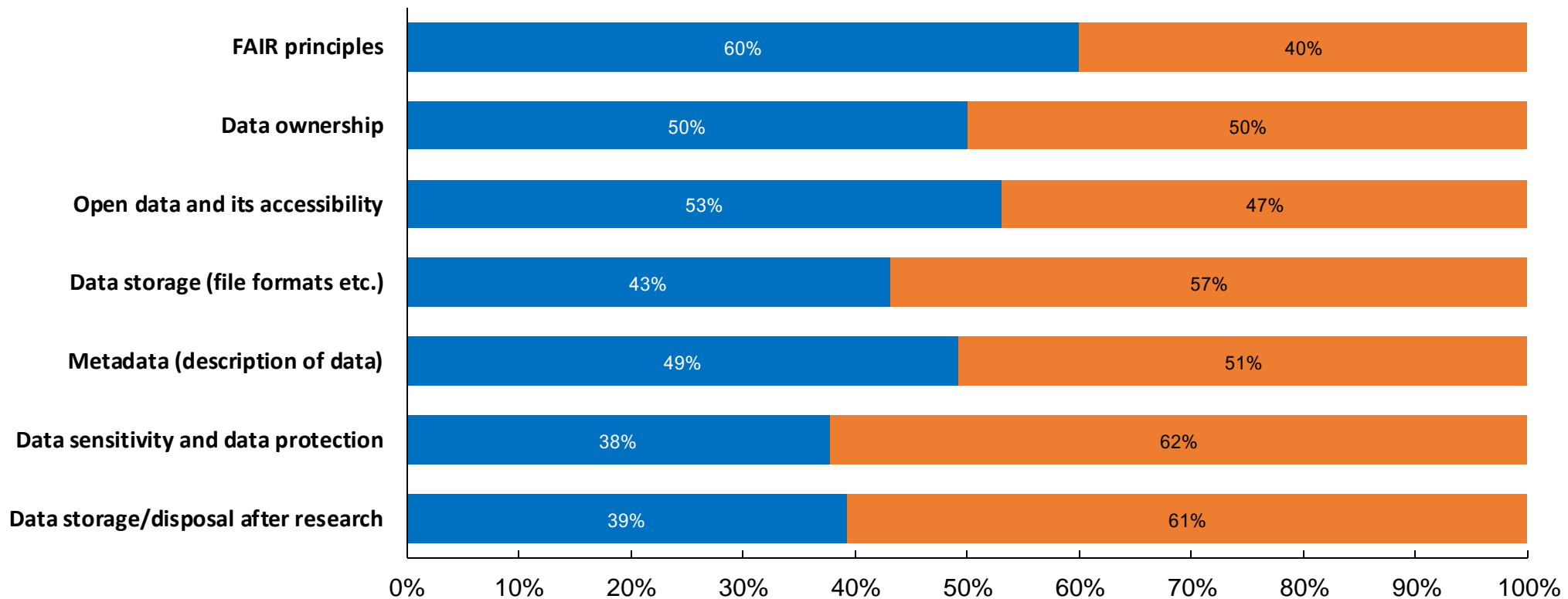


Question 2: Courses in which I teach or know that research data management is taught? = **Current situation**

Question 3: Could data management be included in some of your subject's courses? Which ones? = **Could be included**



Question 4: As a supervisor/teacher, I need guidance in the following areas of data management



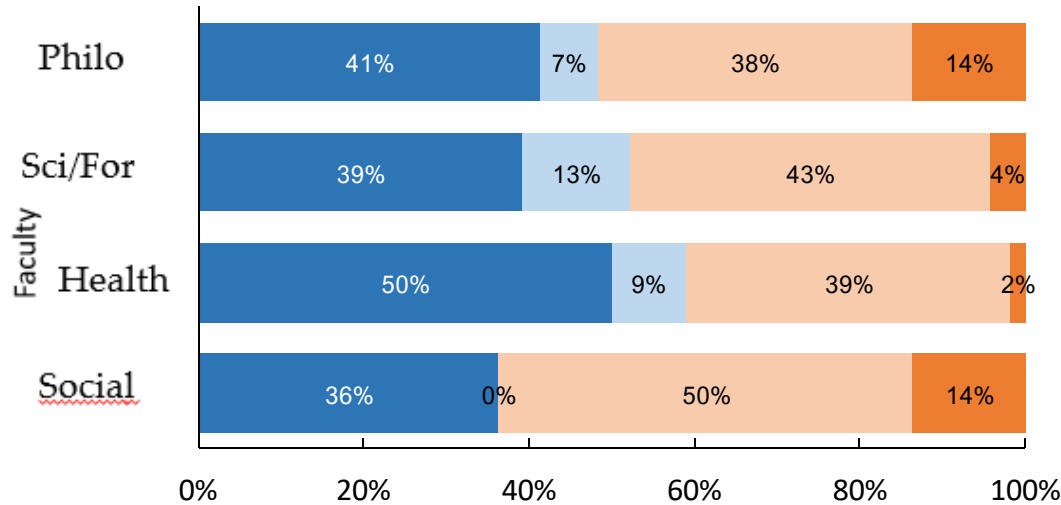
Most Interesting Results in the Faculty of Health Sciences



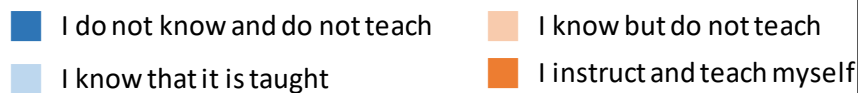
The results: FAIR - principles

Question 1: How familiar are you with the following areas of data management?

1. FAIR-principles

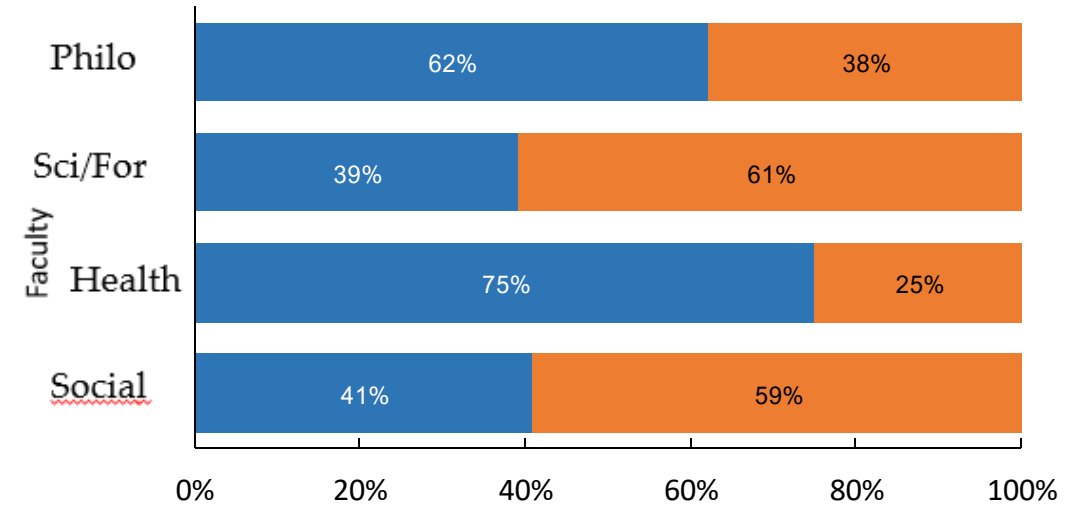


Percentage of responders



Question 4: As a supervisor/teacher, I need guidance in the following areas of data management

4. FAIR-principles



Percentage of responders



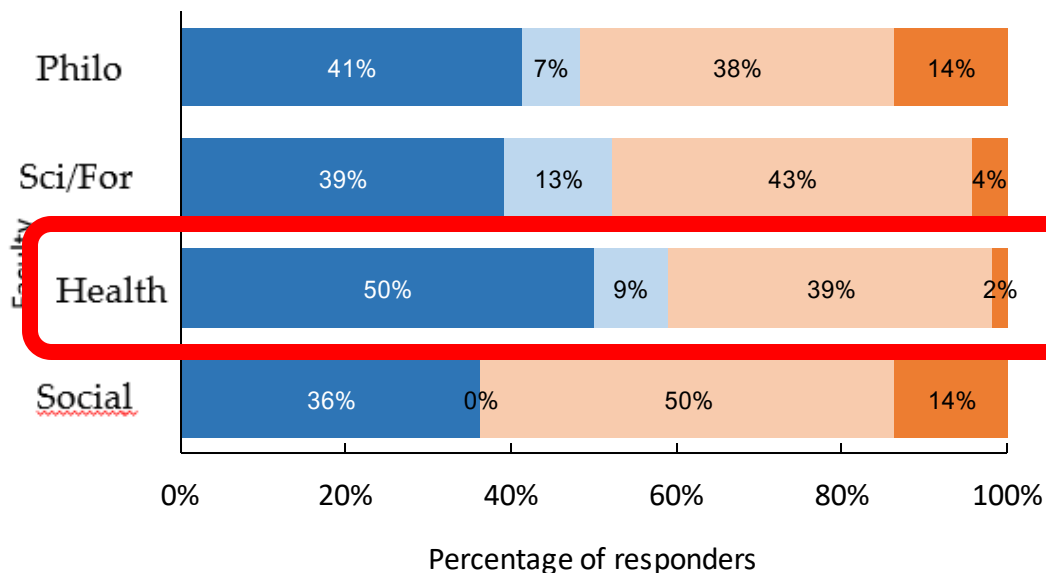
Relatively low familiarity & high need for guidance overall.



Lowest familiarity and scarce teaching of the FAIR-principles, corresponding with highest need for guidance in Health Sciences.

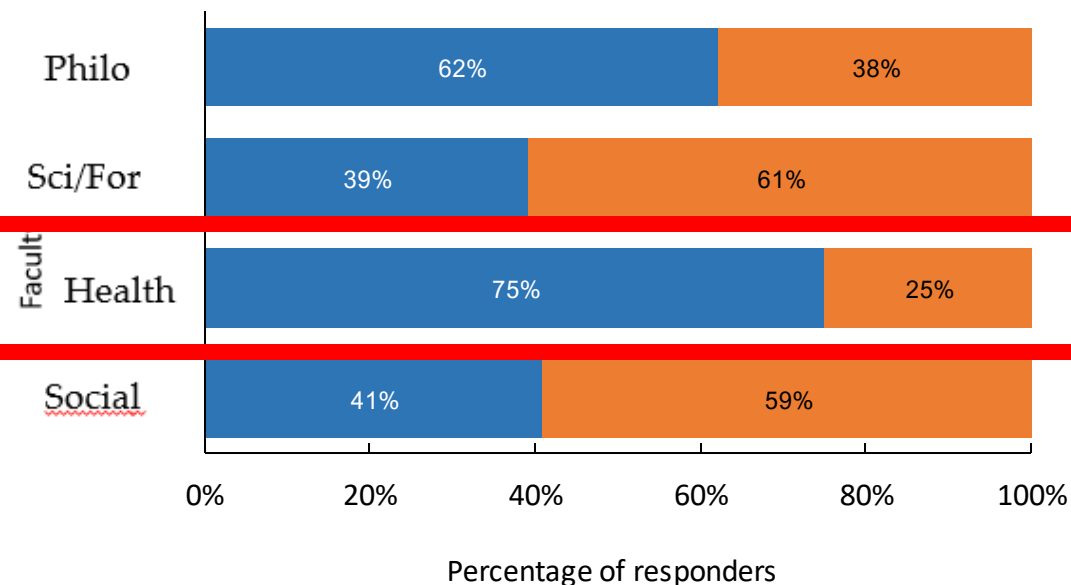
Question 1: How familiar are you with the following areas of data management?

1. FAIR-principles



Question 4: As a supervisor/teacher, I need guidance in the following areas of data management

4. FAIR-principles



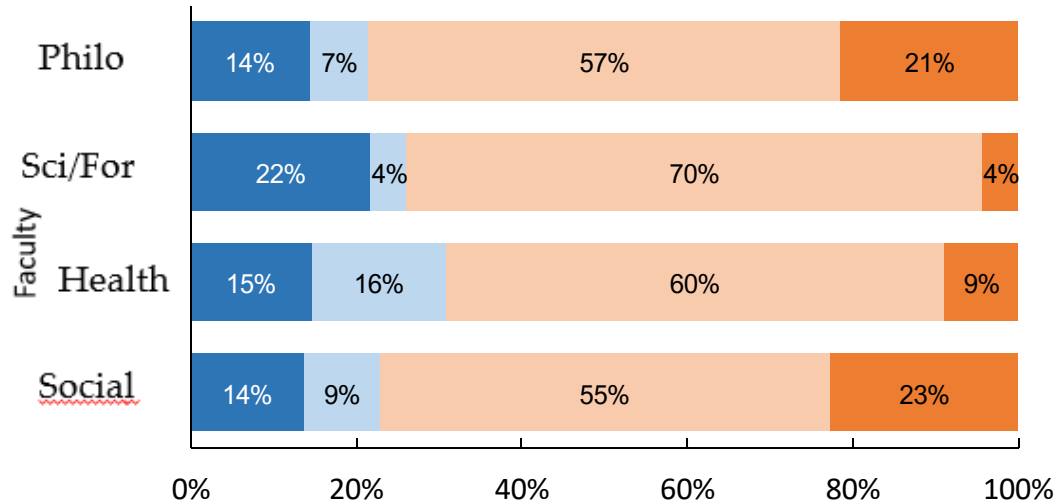


The results: Open data and its accessibility

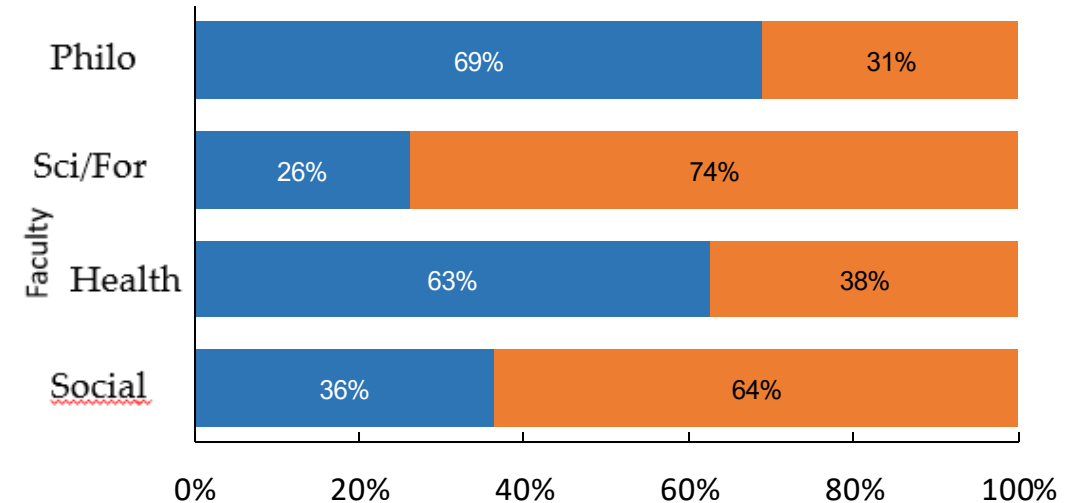
Question 1: How familiar are you with the following areas of data management?

Question 4: As a supervisor/teacher, I need guidance in the following areas of data management

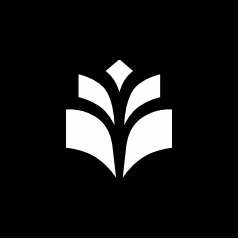
1. Open data and its accessibility



4. Open data and its accessibility



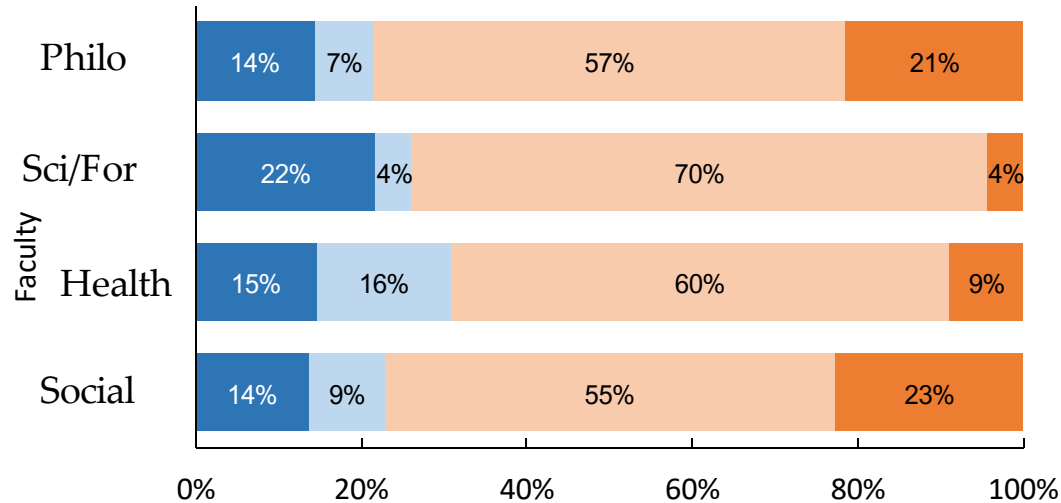
Relatively strong contrast in guidance needs between PHILO/HealthSci compared to SciFor/Social



High need for guidance possibly due to more sensitive data collected/used in Philosophical/Health Sciences?

Question 1: How familiar are you with the following areas of data management?

1. Open data and its accessibility

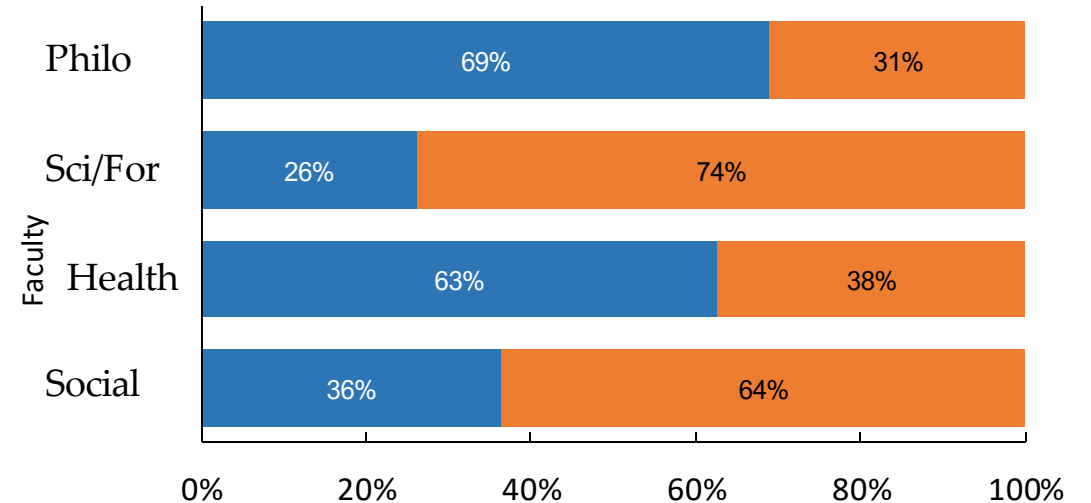


Percentage of responders

I do not know and do not teach I know but do not teach
I know that it is taught I instruct and teach myself

Question 4: As a supervisor/teacher, I need guidance in the following areas of data management

4. Open data and its accessibility



Percentage of responders

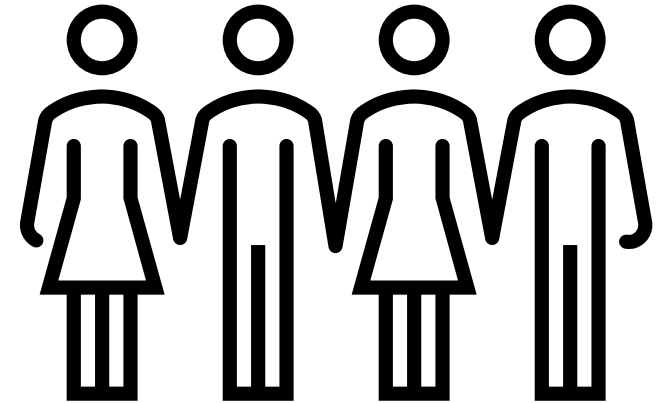
YES NO

Summary of Open Answers



Summary of Open Answers

- n = 73
- The education of RDM was recognized as an important topic overall.
- Responders wish for teaching and self-studying material (online) in one place.
- There is understanding to the fact that RDM actions differ between disciplines.
- Responders wish for RDM training to thesis supervisors but also training for the students by UEF Library (because hands full of other work).
- Some parts of RDM are already guided during the supervision of master's thesis.
- RDM education would be suitable for master's phase of studies but perhaps not bachelor's studies (too soon?).



Discussion, Conclusions and Future Actions by UEF Library



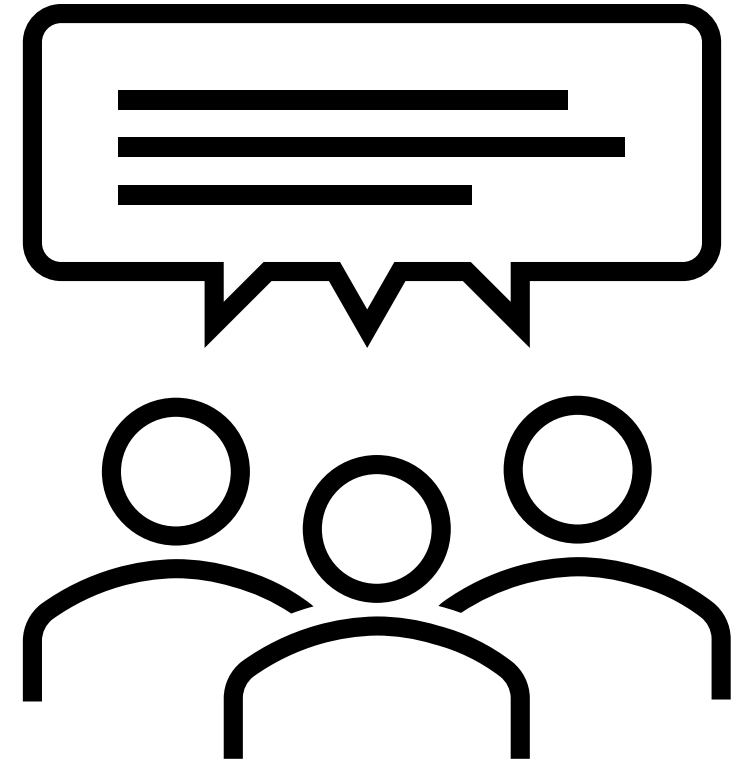
Discussion

One explanation for the low familiarity and high need for guidance in open data matters in the Faculty of Health Sciences is the sensitive nature of the data.

Personal and sensitive data require demanding RDM actions if one wishes to open the data.

However, the RDM procedures in handling personal and sensitive data are most familiar to the Faculty of Health Sciences because of the high use of such data.

On the contrary, the Faculty of Science and Forestry rarely handle personal or sensitive data and also felt lower need for guidance.





Conclusions and Future Actions



UEF Library is gathering and formulating online RDM training material for teachers and supervisors, as well as for the undergraduate students, e.g. Check-List for RDM in master's thesis.



UEF Library has already started communicating with faculties in order to integrate RDM education to existing courses of master's students.



UEF Library will offer RDM training to UEF teachers and supervisors.



Thank you!

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