Exploiting the WIIFM Principle: Managing Data @ Melbourne online training

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The development of Managing Data @ Melbourne

• Drivers for change
• What’s in it for me?
• How we developed the program
• Why we used the LMS
• Linking to DMP Melbourne
• Program launched
• Early results
• Plans for measuring success and impact
$850m annual research expenditure
55,000+ students & 6,500+ staff members
270 graduate courses
22 discipline-specific faculties & graduate schools
100+ research centres & institutes
4,800+ graduate researchers (HDRs)
No central school of graduate research

The need: systematic, sustainable Research Data Management training at The University of Melbourne
1. Getting Started with Research Data
2. Developing your Data Management Plan
3. Ethics and Legal Issues
4. Organising, Storing and Backing-up your Data
5. Documenting and Describing your Data
6. Sharing and Preserving your Data
MANTRA is a free online course for those who manage digital data as part of their research project.
Melbourne MANTRA Pilot

- Research Data Explained
- Research Data Management Plans
- Organising Research Data
- File Formats & Transformations
- Documentation Metadata & Citation
- Storage & Security
- Data Protection Privacy & Rights
- Sharing Preservation & Licensing
Managing Data @ Melbourne
Reduced number of modules

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Engineering Tower CC-By: Ben Kreunen [https://flic.kr/p/aGHcYz](https://flic.kr/p/aGHcYz)
Using the Learning Management System (LMS)

- Blackboard is our platform
- LMS Community site - flexibility of membership and can continue for years
- University-supported
- Learning Environments Academic and Learning Systems Support team - learning designers, web developers, graphic designers and media specialists
- html objects developed
- Learning analytics - track participant progress
- ‘All on the books’ enrolment of the Graduate Researcher cohort.
- Self-enrolment for UoM staff and other students
- External users possible
Interactive html elements

Data Disasters - Postcards from the Edge

The following are real examples where researchers or data centres have lost crucial data. Could any of these ever happen to you? With good planning you could avoid or reduce the impact of such occurrences. To read more about each case, please click on each of the images to reveal further information on the reverse side.

- Lost Hard Drive – Fitzroy, VIC $800 Reward
- Happiness is the return of a stolen computer with data intact
- Google deleted artist's blog erasing 14 years of work in the process
- My EndNote library won't open
- Google suffers data loss as data centre is affected by lightning
- Stolen: "It's like half my brain has been removed"
Welcome to Module 4, in which you’ll learn how to manage data storage practices that ensure your data is easily accessible, trackable, secure and shareable.

After completing this module you will be able to:

- Apply effective use of data file version control and naming conventions.
- Discuss why it is important to carefully select file formats for your data and consider other ways in which your data may need to be kept in different formats.
- Describe the options available to you to store your data safely, and recognise the importance of backing up your data.

When you have worked through this module, you should be able to complete Sections 3 and 4 of your draft data management plan.
Case studies and self-reflection

Getting Started with Research Data

1.1 GETTING STARTED WITH RESEARCH DATA  1.2 RESEARCH DATA MANAGEMENT  1.3 WHY RDM IS IMPORTANT  1.4 RESEARCH DATA LIFECYCLE  1.5 START YOUR DATA MANAGEMENT PLAN

Case Study: Sasha

Consider this:

Sasha is an early career researcher. She completed her PhD about four years ago and is now a postdoctoral research fellow at a different university. Since submitting her PhD, she has published a number of journal articles based on her doctoral research. Her papers have been cited widely in the literature of her field but a recent article by a fellow researcher has questioned her findings and has gone so far as to suggest that the data on which her research was based is inaccurate. One implication is that the data could even have been falsified. Sasha is confident that her research is valid and that her data is accurate:

- What steps could Sasha take to verify her research findings?
- What evidence would she need to demonstrate that she hadn’t falsified her data?
- If someone accused you of research misconduct, would you be in a position to defend your research and reputation?

Think about your own research. List some strategies you could implement now that would assist you should you ever find yourself in Sasha’s situation.
Up-to-date examples that resonate

Reports of research data fabrication and fraudulent behaviour

Research data fabrication and fraudulent behaviour does happen, as the brief selection of articles below illustrates:

- Retraction Watch: the 2016 case of an Australian researcher found guilty of fraud in an Australian court for falsifying data for funding.
- New York Times: an account of a fraud case involving a well-known European psychologist whose work had been published widely in professional journals and who had falsified data and made up entire experiments.
- The Conversation: an article by Mark Israel (Winthrop Professor of Law and Criminology, University of Western Australia) on fabrication and plagiarism in research.

Founded in 2010 by science writers Ivan Oransky and Adam Marcus, Retraction Watch regularly reports on retractions of scientific papers and related matters. Access the full Retraction Watch site here. You can sort Retraction Watch posts by author, country, journal, subject, and type.

See the latest tweets from Retraction Watch below.
Linking learning to a practical outcome

Summary of Module 4

You have now completed Module 4.
You should now be able to:

- Recognise the importance of managing data file versioning and naming conventions.
- Understand why it is important to carefully select file formats for your data and consider other data transformations.
- Be aware of the options available to you to safely store your data, and recognise the importance of organising data backups.

Now that you have worked through this module, it's time to continue with your draft data management plan.

Data Management Plan Activity

Go to DMP Melbourne and open your draft data management plan.

Now complete the Section 4. It is recommended that you discuss these issues with your supervisor(s) to find out what data storage facilities and processes are available in your department, school or faculty.

- How will you store and back-up your data? Describe how your data will be stored and backed-up to ensure the data and metadata are secure during your candidature. Storing data on laptops, computer hard-drives or external storage devices alone is very risky. The use of robust, managed storage with automatic backup (e.g., provided by university IT teams) is preferable. How will your data be backed up? Describe how often, where to, how many copies, and whether this is automated.

- How will you manage access and security? If your data is sensitive (e.g., it contains detailed personal data, politically sensitive information or trade secrets) you should outline any appropriate security measures that you will be taking. Note the main risks and how these will be managed.

This is the end of Module 4.
Linking to DMP Melbourne
Linking to DMP Melbourne
Program launched end of February 2017

Early results

• LMS and DMP activity analytics
• Strategic marketing and communication campaign
• Engagement by key stakeholders
  • Pro Vice Chancellor (Grad & Int’l Research)
  • Associate Deans Research
  • Associate Deans Research Training
  • Faculty Research Managers
• Now promoted in mandated Supervisor Training (F2F and online)
• Some Schools have indicated that they will mandate it for their cohorts.
The University's research data management course consists of **six short modules**, which outline the fundamental practices of good data management.

- Storing
- Documenting
- Preserving
- Sharing data

[library.unimelb.edu.au/data](library.unimelb.edu.au/data)
Data management is “fundamental to the training of every student during their PhD”
Professor Dick Strugnell, Pro Vice-Chancellor (Graduate and International Research)

Good data management planning can increase your efficiency and effectiveness as a researcher.
Develop the skills you need to draft your research data management plan.
Good Data Management is fundamental to successful research

- How do you organise the research data you collect?
- Where is your research data kept? Is it backed-up?
- How do you keep your data secure and confidential but easy for you to access?
- What are your long-term strategies for your data? How will you share it? How will you preserve it?

Do you have a research data management plan?

library.unimelb.edu.au/data
# Managing Data @Melbourne - Aspects of the course

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[library.unimelb.edu.au/data](library.unimelb.edu.au/data)
Next steps and plans for measuring success and impact

Development of a ‘hurdle’ activity to certify completion

Research project

- Has the Managing Data@ Melbourne program design met the research training needs of the target audience?

- Has participation in the Managing Data@ Melbourne program changed (or is likely to change) the attitudes and behaviour of participants in the management of their own research data and materials?

  - Participant survey
  - Detailed analysis of learning analytics in the LMS
  - Focus groups with program participants
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- ANDS
- DCC
- University of Edinburgh

+ research students & ECRs who participated in the videos
http://www.library.unimelb.edu.au/data

Register for access: managing-data@lists.unimelb.edu.au

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