101 innovations in scholarly communication

Open Science skills

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Copenhagen Business School, October 26, 2018

available online at:
https://tinyurl.com/...
101 innovations in scholarly communication: project overview & examples

Fields:
- Scholarly communication
- Tools for research
- Research practices
- Open Science
- Workflows

Activities:
- Exploration
- Research
- Supporting information
- Advocacy
- Workshops

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Bianca Kramer & Jeroen Bosman
101innovations.wordpress.com
What skill are you really happy you learned?
Open Science skills
morning programme

- Open Science
- Work towards a selection of important OS activities
- Further discuss/define skills for selected activities
- Assess current levels of those skills (of researchers in Denmark)
- Prioritize skills to be enhanced
- Define skills enhancement actions
- Suggest roles/implementation
- Conclusions, opportunities, wrap up
The Open Definition

The Open Definition sets out principles that define “openness” in relation to data and content.

It makes precise the meaning of “open” in the terms “open data” and “open content” and thereby ensures quality and encourages compatibility between different pools of open material.

It can be summed up in the statement that:

“Open means anyone can freely access, use, modify, and share for any purpose (subject, at most, to requirements that preserve provenance and openness).”

Put most succinctly:

“Open data and content can be freely used, modified, and shared by anyone for any purpose.”
Why Open Science?

- Transparency, accountability
- Efficiency
- Reproducibility & verifiability
- Relevance & stakeholder involvement
Open Science is

Open to participation
- No barriers based on race, gender, income, status, language
- Involvement of societal partners in research priority setting
- Evaluations that include societal relevance
- Citizen science

Open to (re)use
- Open Access, for people and machines, to:
  - Proposals and applications
  - Data
  - Code
  - Preprints, working papers
  - Papers and books
  - Reviews and comments
  - Posters and presentations
- Open, non-proprietary standards
- Open licences
- Full documentation of process

Open to the world
- Translations
- Plain language explanations
- Outreach beyond academia
- Open to questions from outside academia
- Curation and annotation of non-scholarly information
- Participation in public debate

And: Open educational resources / Open source software / Open hardware / Patents

From: Bosman & Kramer (2017) Defining open science definitions
Evaluation of Research Careers fully acknowledging Open Science Practices

Rewards, incentives and/or recognition for researchers practicing Open Science

EC Working Group on Rewards under Open Science, 2017
Open Science career assessment - OSCAM

- Research output
- Research process
- Service and leadership
- Research impact
- Teaching and supervision
- Professional experience
OSCAM - make sense of it

- Research output
- Research process
- Service and leadership
- Professional experience

EC Working Group on Rewards under Open Science, 2017
Let’s ….
Six mixed groups ...
What are those skills?
Do researchers already have them?

‘Results’ group A: skills needed for datasets and research results

Using the FAIR data principles
- Knowledge about the principles
- Basic data management skills
- Willingness to share
- Findable: information retrieval, identify and assign metadata (PID/DOI’s etc.)
- Accessible: tool, repository, standards (formats)
- Interoperable: computer skills, sharing of code, standard computer language across disciplines
- Reusable: data quality, documentation, licensing,

Do researchers already have these skills?
- They have domain skills, ie. knowledge about standard formats within their domain

Actions to enhance the skills:
1. Create an Open Science Or data policy for the research institution
2. Offer training - blended learning!
3. Politicians, Management, library, researchers
‘Results’ group B: skills needed for research integrity

No difference between conventional academic approaches and Open Science approaches when it comes to research integrity.

Skills needed:

● RCR
● GDPR
● Data Management
● General maintenance of references and citing
● FAIR
‘Results’ group C: skills needed for leadership

- Interpersonal skills
- Willingness to take risks
- Highly developed Academic skills within your field
- Extensive knowledge of open science
- Being able to create an executable strategy
- Leadership and strategy skills
- Communication skills
- Passion for development of research
- Outlook
‘Results’ group D: skills needed for Publications

- How to get institutional support or funding
- Meeting data requirements (preparing for upload/storing)
- Sharing and linking from popular media/social media to the research
- Choosing repositories (institutional or international repositories)
- Keeping track of versions
- Rights and permissions from the publisher (embargo)
- Constructing useful metadata - describing the data set

- Researchers need a better understanding of the importance of meta-data
- Researchers are not use to integrating open data in research design
‘Results’ group E: skills needed for Teaching

(what are the starting point about Open Science training in DK as now)

○ Do our researcher use expertise from our Libraries - it differs!!

Defining the many Open Science processes that is in play/needed

○ Open Access
○ Open Data / Data Management Plans / FAIR
○ Open Scholarly Communication, incl. policies, mandates, etc..

Awareness of the specific needs from different disciplines

○ Focus on correct context (Arts versus HEalth versus Science
○ Focus on Academic traditions ..
○ Share experiences on Open Science / cases from real life
○ Different target groups (from undergraduate to PhD/early career..)
‘Results’ group F: skills needed for open peer review

1) Open peer review processes
   ● Deep subject knowledge of the field
   ● Information search skills to assess the positioning of the research in the field
   ● Openness for alternative opinions
   ● Diplomacy

2) Assessing open research
   ● Need all of the above, depending on the target audience of the open research publication:
     ● Understand how research should be presented to different audiences, e.g. scientific community or the public
     ● Understand different writing styles
   ● Patience
What can one do about it? How? Who?

Think of actions to enhance those researcher skills:

- What is already being done?
- What do we need to look at additionally?
- How can the action(s) be implemented?
- Who should take the initiative, who should be involved?
‘Results’ group A on skills for....
What skills enhancement action? How Who?

Policies in the research institutions that are FAIR; blended learning offered to researches, make sure it is related to European and national level policies.
‘Results’ group B on skills for…
What skills enhancement action? How Who?

Adding OS to PhD courses and apply that more broader
‘Results’ group C on skills for....
What skills enhancement action? How Who?

Leadership issues should be addressed bottom up, find ways to support.....
‘Results’ group D on skills for….
What skills enhancement action? How Who?

Courage to: explain OA to higher levels including politicians, stimulate courage
‘Results’ group E on skills for Teaching…. What skills enhancement action? How Who?

TRAIN THE TRAINER on Open Science in regards to research output and like (with overall content, and ideas to tailor the class/course with local needs and policies..)

- Every PhD school has the offer to participate in these classes incl. ECTS
In order to develop the skills needed for open peer review, you would actually need a **deep change of the academic culture**, leading e.g. to the acceptance of alternative opinions as valuable.

We are not sure that this is easily achievable, because **this attitude is in contradiction of the traditional (successful) academic attitude**, where you believe “I am the best in my field (and have of course seen the Truth) and therefore receive all this funding for my research projects”.

**Change can only happen gradually through academic leadership.**
researchers are 100% required to adopt OS practices

the library is a follower in open science support

researchers are 100% free in adopting OS practices

the library is leading open science support
researchers are 100% required to adopt OS practices

Have your say:
- = current state at your institution
- = the situation of your dreams
- = the situation you expect in 3 years

the library is a follower in open science support

the library is leading open science support

researchers are 100% free in adopting OS practices
Researchers are 100% required to adopt open science practices.

Libraries are following in open science support.

Libraries are leading in open science support.

Researchers are 100% free in adopting open science practices.
Barriers and motivations

- assessment criteria
- institutional policies/culture
- PI demands
- learning curves
- agreements with collaborators
- uncertainty over effects & legitimacy
- political support at (inter)national level
- pressure from funders
- public stance on Open Science by institution
- user-friendly and powerful tools
- interoperability
- role models
- attention for positive effects
Developments towards
good, open and efficient research

<table>
<thead>
<tr>
<th>Slow, difficult</th>
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<tbody>
<tr>
<td>Debunking impact factor thinking</td>
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<td>Registering peer review at Publons</td>
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<td>Sharing posters openly</td>
<td>Academic social networks (ResearchGate)</td>
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<td>Depositing author versions</td>
<td>Availability creative commons licenses</td>
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<td>Plain language explanations</td>
<td>Development of tools and platforms</td>
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<td>Development of Open Citation database</td>
<td>OA aggregation</td>
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<td>Sharing notebooks/protocols</td>
<td>Stated Open Science support by researchers</td>
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# Types /levels of open science support

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<th>Inform</th>
<th>Support</th>
<th>Advise, advocate</th>
<th>Policies</th>
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<td>e.g.: Info on website, on application forms</td>
<td>Offer practical advice, financial support</td>
<td>What is a good choice, why, what is important</td>
<td>Mandates</td>
</tr>
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<td>asks for: Knowledge, organizing info</td>
<td>Communication skills, expertise</td>
<td>Advocating priorities, field-specific knowledge; a vision</td>
<td>Authority, alignment with other parties</td>
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Library services across the full workflow.

And in the research preparation phase:
- advice on OA funding
- advice on data requirements
- access to funding search engines
Library services across the full workflow

And in the research preparation phase:
• advice on OA funding
• advice on data requirements
• access to funding search engines

Service types:
A = advice
I = infrastructure
S = spaces
T = training
Fellowships, conferences, communities

Apply for 2019 or attend remotely

Join community now!

Apply for 2019

Join community now!

Join community now!
Join the OpenCon discussion list

Community Calls
Join our monthly community calls to keep up to date with the work being done around the world to advance Open Access, Open Data, and Open Education.

Community Collaborate
Find collaborators for your project; or browse our community project directory to find an initiative you want to get involved with!

Community Webcasts
Webcasts will provide a regular opportunity for the community to hear from those leading the charge for Open Access, Open Education, and Open Data.

Upcoming Calls
Find collaborators
Find webcasts
More than 4000 participants have attended OpenCon and its satellite events.

Since 2014, OpenCon has received applications from 176 countries.
Transforming Science

Mozilla Science Lab is a community of researchers, developers, and librarians making research open and accessible. We’re empowering open science leaders through fellowships, mentorship, and project-based learning.

- Maximizing access to papers, data, code, and materials so anyone can read and contribute
- A community of researchers advocating for openness and collaboration
- Open Science: A way for science to achieve its fullest potential
Recent questions and answers

1. **Do publishers allow cumulative dissertations?**
   - 2 upvotes, 0 downvotes
   - Answered Jul 10 by Lydia (61 points)
   - Tags: publishing, open-access, cumulative-dissertation, copyright-transfer-agreement, copyright
   - 70 views

2. **What is the Impact of the new GDPR (General Data Protection Regulation) on Open Science?**
   - 3 upvotes, 0 downvotes
   - Answered Jun 27 by Felix.Schoenbrodt (163 points)
   - Tag: open-science
   - 37 views

3. **Is there any registry of Open Science tools available?**
   - 1 upvote, 0 downvotes
   - Answered Jun 26 by ortizudelaJ (20 points)
   - Tags: registry, tools, infrastructure
   - 56 views

4. **Where is "Documentation" covered in the FAIR principles?**
   - 1 upvote, 0 downvotes
   - Answered Jun 23 by Daniel Mietzen (2.5k points)
   - 20 views
Open Science course materials: MOOC

https://opensciencemooc.github.io/site/
The Open Science Training Handbook

A group of fourteen authors came together in February 2018 at the TIB (German National Library of Science and Technology) in Hannover to create an open, living handbook on Open Science training.
AVAILABLE LEARNING PATHS

The following are a list of Learning Path that will be soon available on the platform. Please keep in mind that the learning paths and badges described here are work in progress.

- The open peer reviewer
- The responsible data sharer
- The reproducible research practitioner
- The open innovator
- The open access author
INNOVATIONS IN SCHOLARLY COMMUNICATION

Changing Research Workflows

http://101innovations.wordpress.com