Supervision in academia: let's make things better

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NRIN Symposium 14 December 2021

What are we going to discuss?

1. What is responsible supervision?

2. Why is it important?

3. What has been studied?

4. What can we do?

5. Next steps

What are my take home messages?

1. How can we make academia better? With responsible supervision

2. You can do more than you think

3. Leading by example

4. Supervision is pivotal in conveying research integrity

5. Institutions can take a more prominent role in putting supervision on the pedestal as key ingredient for responsible research

6. Don't forget, supervision is a lot of fun

What is responsible supervision?

- Supervisor (Bird 2001): a formal role and regards the responsibility for guiding the PhD candidate to obtaining the PhD degree

- RI and supervision go hand in hand
  - Prevention of QRPs
  - Teaching responsible research practices
  - Exemplars for early career researchers

What is the responsibility of a supervisor?

1. Supervisor guides the PhD student in all phases of the research process
2. Gives feedback and stimulates a reflective stance
3. Helps a PhD student to develop as an independent researcher
4. Communicates transparently about expectations
5. Integrity and reliability
6. Empowers their supervisees
7. Aspires trustworthy and valid research
8. Helps students solve their problems (research related)
9. Teaching by example...

Supervisor vs. mentor

1. A mentor is focused on a more personal level
2. Is a personal guide in professional development
3. Is considered a coach
4. Has eye for mental health

Bird, 2001; Bouter, 2015.

And what is the role of a research leader?

Play an important role in RCR because:[1]

- Leading role and role model

- Implementation of guidelines

- Fostering awareness and appreciation of RI

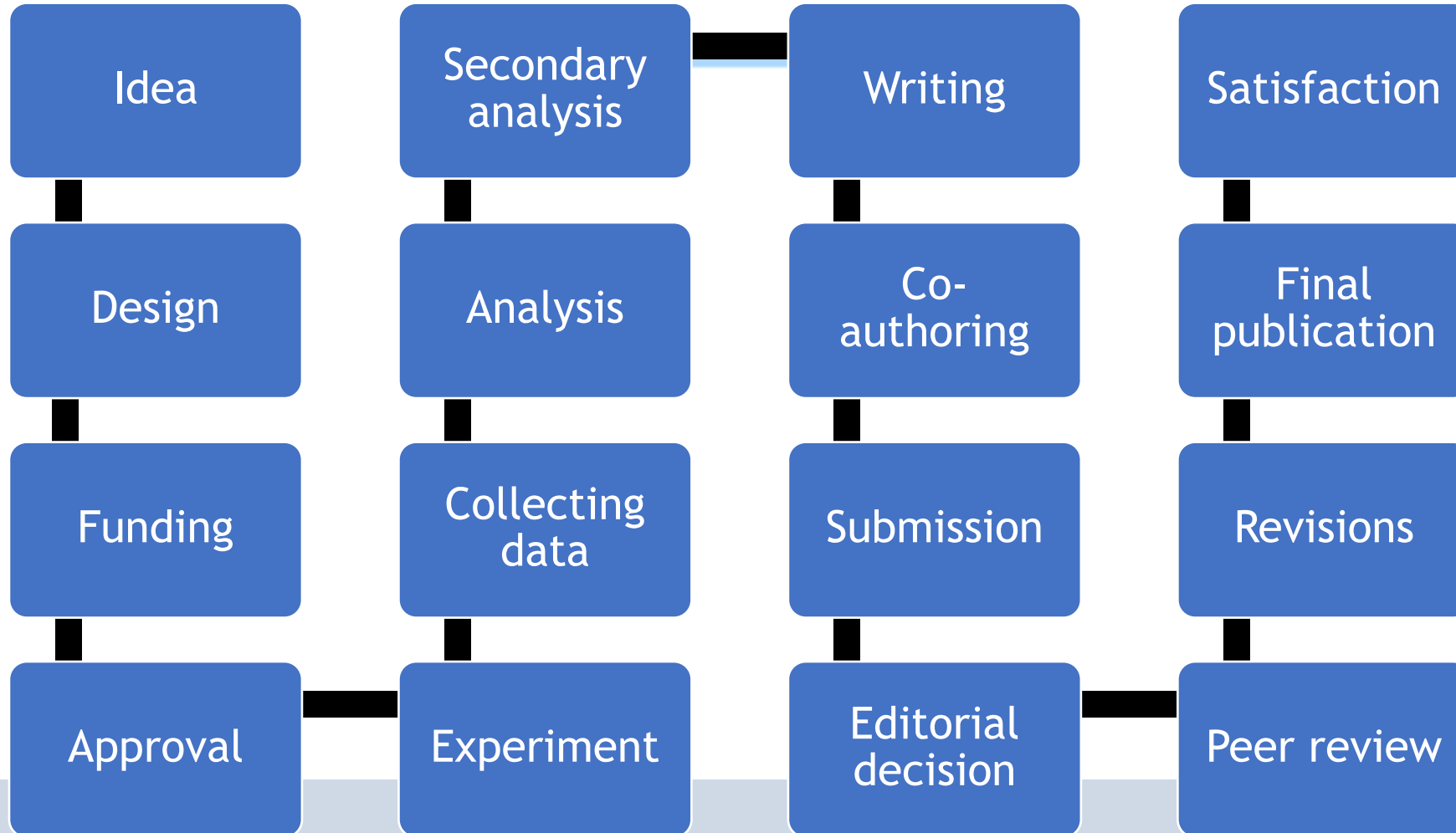- But dependent of leadership styles:

1. National Research Council 2002

Why is it important?

Why is it so important?

Idea	Secondary analysis	Writing	Satisfaction
Design	Analysis	Co-authoring	Final publication
Funding	Collecting data	Submission	Revisions
Approval	Experiment	Editorial decision	Peer review

# Top 5 research misbehaviors (aggregated impact)

1. Insufficiently *supervise* or mentor junior coworkers

2. Insufficiently *report study flaws and limitations*

3. Keep *inadequate notes* of the research process

4. Turn a *blind eye to putative breaches* of research integrity by others

5. Ignore basic principles of *quality assurance*

Bouter et al 2016, Haven et al 2019

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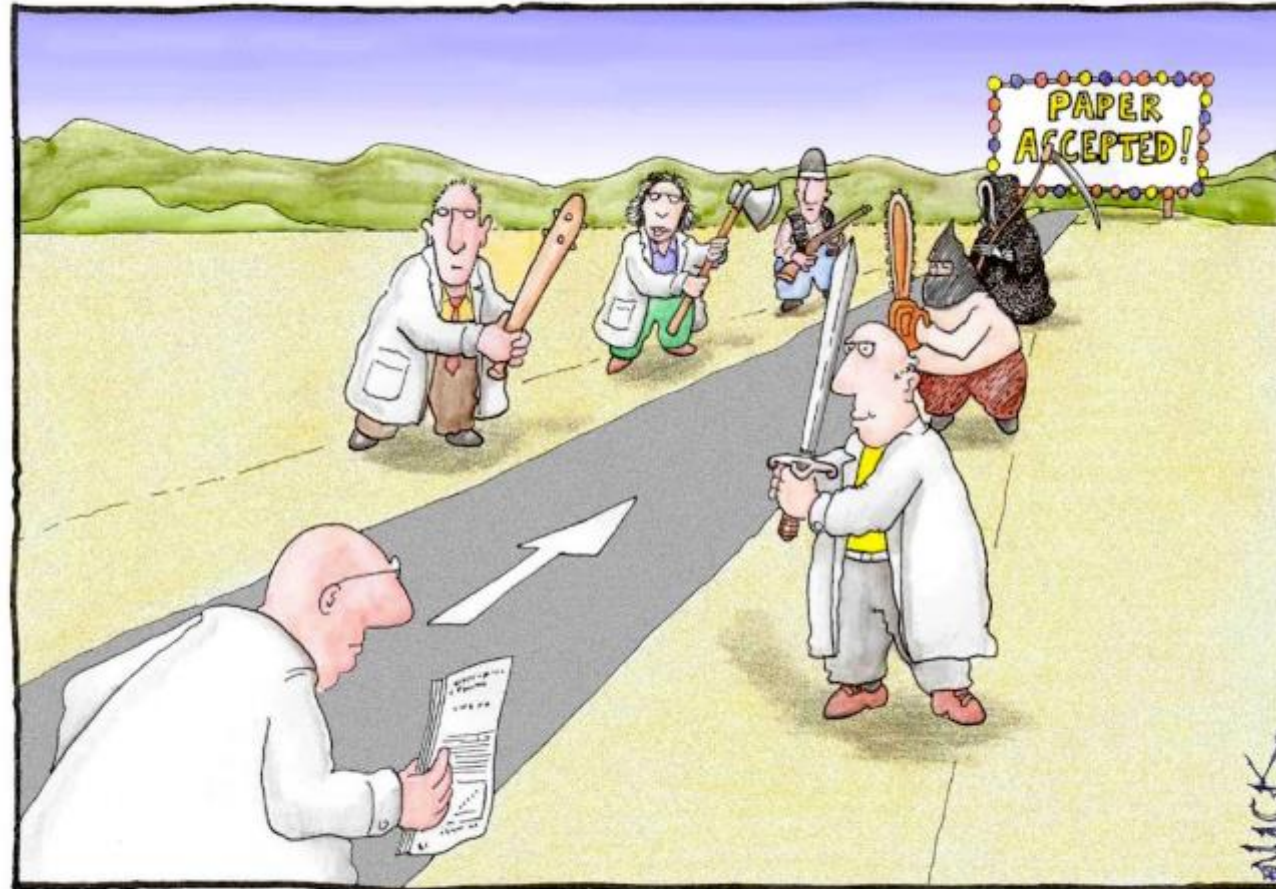
Most scientists regarded the new streamlined peer-review process as "quite an improvement."

3. What has been studied?

o What can individuals do? => Superb Supervision

o What can institutions do? => Implementation of guidelines

o What should system of science do? => Recognize and reward supervision

Superb Supervision – a pilot study

Methods:
- 3 day training program (combination of RI-tools and soft skills)
- RESQUE survey sent to supervisors and PhD students focussing on skills
- Evaluation survey
- Focus group study

Superb Supervision

Responsible supervision in RI:
1. Rigorous methods
2. Preregistration
3. Data-analyses plans
4. Publication plans
5. Preprints
6. Open Science Practises
7. Navigating RI-dilemma's

Soft skills:
1. Listening
2. Asking questions
3. Building confidence
4. Discussing expectations
5. Providing feedback
6. Leadership
7. Fostering autonomy
8. Becoming a role model
9. Strokes & strikes

Module 1	January 9th OR 22nd	Module 2	April 17th OR 25th	Module 3	September 18th OR 26th
Theme: An optimal relationship with your PhD candidate		Theme: Conveying Research Integrity		Theme: You as a supervisor	
Morning:	Research Integrity dilemmas & research misbehaviour	Morning:	Tools for transparency: Preregistration, Preprints and Post-Publication Peer Review	Morning:	Own pitfalls regarding research integrity
	Safe working climate for integrity and expectations management		Good practices for assigning authorship		Stress & Imposter syndrome in PhD candidates
					Public communication and research integrity
Afternoon:	True listening	Afternoon:	Role-play with actors, exploring own dilemma	Afternoon:	Learning from role-models
	Giving concrete feedback				Becoming your own rolmodel
	Setting up an intervision group				Closure

Superb Supervision – a pilot study

Methods:
- 3 day training program (RI and soft skills)
- RESQUE survey sent to supervisors and PhD students focussing on skills
- Evaluation survey
- Focus group study

Results:
- Inclusion of 21 supervisors and their PhD students, mostly biomedical
- Higher rating of supervision skills (in SV and PhD student)
- Connection between RI and interpersonal skills is perceived as pivotal

What did we learn?
- Training is efficient
- Measuring the recipient (PhD-students) has potential and is essential as this is the ultimate target of supervision
- Although making it mandatory may be a way forward, this is not considered the best implementation strategy (FG-results)

Haven et al. 2021. Preprint

SOPs4RI   ions -

Research Integrity tools for RPOs

The SOPs4RI Toolbox is a structured collection of easy-to-use Standard Operating Procedures (SOPs) and Guidelines that Research Performing Organisations (RPOs) can use to develop their own Research Integrity Promotion Plans (RIPPs). The SOPs4RI Toolbox will contain supplementary resources that can inspire policy makers to foster research integrity at the organisational level.

RESEARCH ENVIRONMENT

RE STRUCTURES

RESEARCH COLLABORATION

SUPERVISION and MENTORING

BREACHES of RI

DECLARATION of INTERESTS

RI TRAINING

DATA MANAGEMENT

PUBLICATION and COMMUNICATION

https://sops4ri.eu/tool/guidelines-for-research-institutions-on-supporting-the-phd-trajectory/

SOPs4RI Guidelines for institutions - Supervision

Methods:
- Extensive preparations with experts
- Cocreation workshops with international experts in the field of supervision
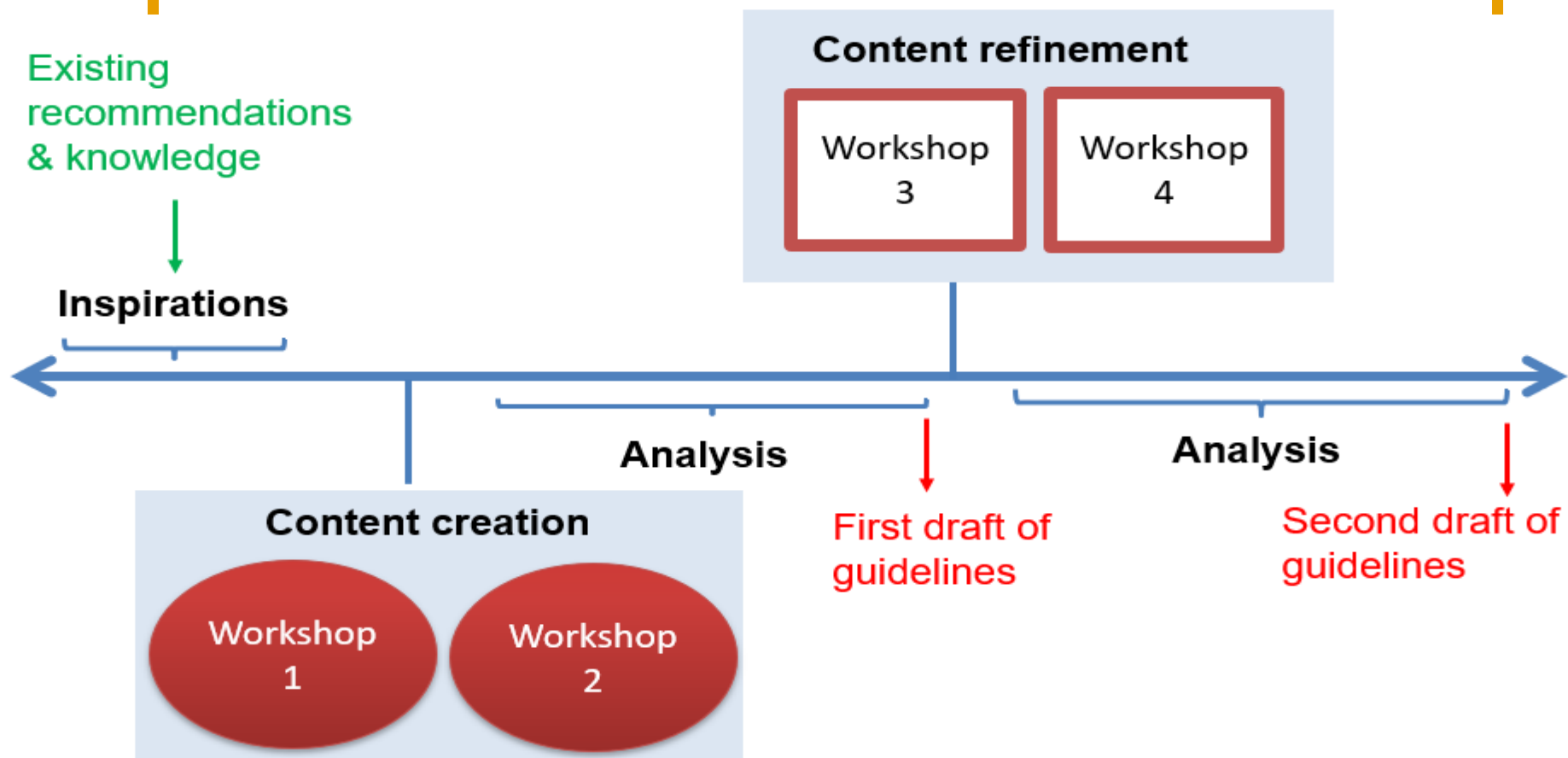- Special Working groups for guideline refinement

Results:
- Inclusion of 12 international supervision experts that participated in 4 cocreation workshops
- Creation of guidelines for 3 core topics: (PhD guidelines for SV, supervisors guidance, leading teams)
- Creation of a total of 14 key recommendations
- Currently used in the implementation phase (pilot-testing) of the SOPs4RI project (www.sops4ri.eu)

What did we learn?
- Institutions can do much more
- Guidelines can make a difference to make researchers aware of the importance of responsible supervision
- However, supervision skills should be rewarded and recognised more often
- Guideline creation is fun

SOPs4RI Guidelines for institutions – Supervision – CoCreation Workshops

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SOPs4RI Guidelines for institutions – Supervision – PhD Guidelines

Key recommendations:
1. Create PhD trajectory guidelines
2. Provide training and support
3. Promote a written record of agreements
4. Provide independent bodies to consult

https://sops4ri.eu/tool/guidelines-for-research-institutions-on-supporting-the-phd-trajectory/

SOPs4RI Guidelines for institutions – Supervision – Supervisor guidelines

Key recommendations:

1. Create supervision policies and guidelines
2. Provide supervision training
3. Stimulate positive interaction with supervisees
4. Recognize and reward good supervision

SOPs4RI – Institutions concrete guidelines

PhD guidelines:
- Guidelines for RRPs
- Evaluation of supervisors
- Supervision written agreement
- PhD training – how to deal with supervisors
- Organise peer support
- Community building
- Attention for mental health

Supervisor guidance:
- Supervisors manual
- Allocate time and tasks
- Peer support
- Supervisor Training
- Evaluation of PhD collaborations
- Recognition and reward

SOPs4RI Guidelines for institutions – Supervision – Leading an effective team

Key recommendations:
1. Stipulate responsibilities of research leaders
2. Support research leaders
3. Provide time, guidance and resources
4. Provide leadership training
5. Recognize and reward good leadership
6. Safeguard research freedom

https://sops4ri.eu/tool/guidelines-for-research-institutions-on-supporting-the-phd-trajectory/

4. What can we do?

H. van der Boom

G. Klabbers

K. Putnik

M. Woolderink

It takes two to tango

A qualitative study amongst PhD candidates and supervisors to evaluate the process of PhD supervision in the Netherlands

Maastricht University
Faculty of Health, Medicine and Life Sciences
School for Public Health and Primary Care (CAPHRI)

10 GOLDEN RULES FOR

PHD CANDIDATES

1 You're stakeholder #1 in your project –
   be the captain of your ship
2 Discuss mutual expectations about supervision
3 Get an overview –
   make a project plan with your supervisors
4 Manage your time well –
   and make sure you do it your way
5 Work hard, play hard
6 Ask for what you need –
   and address it if you don't get it
7 Make use of all available sources of support
8 Organise peer support
9 Invest in your future – build your network,
   expand activities and skills
10 Remember you're smart – Yes, You Can!

10 GOLDEN RULES FOR
PHD SUPERVISION

1 Get to know your PhD candidate – as a person
2 Discuss mutual expectations regarding supervision
3 Make a project plan together with your PhD candidate
4 Separate responsibilities for the research project
5 Evaluate project plan as well as supervision –
  on a regular basis
6 Be available and reliable
7 Know that support needs may shift –
  no linear learning curve
8 Organise or stimulate peer support –
  for the PhD candidate
9 Share and open up your network
10 Share supervision experiences with other supervisors

Supervision well, that sounds like….

Sounds a bit like…

Top 10
GOOD PARENTING TIPS

1. Be A Good Role model

2. Love Them And Show Them Through Action

3. Practice Kind And Firm Positive Parenting

4. Be A Safe Haven

5. Talk With Your Child And Help Their Brains Integrate

6. Reflect On Your Own Childhood

7. Pay Attention To Your Own Well-Being

8. Do Not Spank, No Matter What

9. Keep Things In Perspective And Remember Your Parenting Goal

10. Take A Shortcut By Utilizing Findings In Latest Psychology And Neuroscience Research

PARENTING FOR
Brain

What can we do better?

Individual level
1. Teach supervisors to become better supervisors
2. It takes two to tango

Institutional level:
3. Using guidelines that can help institutions to provide clear guidance for supervisors what are their roles and responsiblities

National/European level:
4. Recognize and reward supervision as key element in research practices => this may stimulate researchers to invest in supervision skills

Next steps?

- More attention for responsible supervision
  - In training/education
  - In recognitions
  - in the relationship with PhD-students
  - As research subject
- Learn how to use tools for responsible research in supervision
- Revalue the importance of soft skills in conveying research integrity
- Role models are essential for early career researchers
- License to supervise?

What are my take home messages?

1. How can we make academia better? With responsbile supervision

2. You can do more than you think

3. Leading by example

4. Supervision is pivotal in conveying research integrity

5. Institutions can take a more prominent role in putting supervision on the pedestal as key ingredient for responsible research

6. Don't forget, supervision is a lot of fun

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SOPs4RI Guidelines for institutions – Supervision – PhD Guidelines

Key recommendations:

1.Create PhD trajectory guidelines

A. Include information related to institutional and national rules, policies and guidelines on research; the rights and responsibilities of PhD students and supervisors; procedures to change supervisors or terminate the PhD trajectory; ethical considerations; support structures; and any other practicalities about students' research projects

B. Communicate the PhD trajectory guidelines to students at the start of their PhD trajectory

2.Providine training and support

A. Host educational activities for PhD students on responsible supervision and mentoring. These could include seminars, workshops and lectures

B. Implement visible and approachable support structures for the well-being and mental health of PhD students

C. Stimulate and facilitate the formation and dissemination of disciplinary and interdisciplinary peer support groups for PhD students

D. Provide support suitable for PhD students with various needs, including specific support for foreign and guest students

E. Provide opportunities for PhD students to supervise juniors, such as bachelor and master students, in their research projects

3.Promote a written record of agreements

A. Provide guidance on what the agreement should consist of. For instance, suggest to include agreements on expectations, roles, rights and responsibilities of all parties in the PhD trajectory

B. Advise PhD students and supervisors to use the agreement as a tool to discuss not only ractical issues, but also their general relationship and collaboration

4.Provide independent bodies to consult

A.Clearly define the responsibilities and roles of the independent body regarding consulting PhD students and supervisors, and handling challenges and potential disputes.

B. Make the independent body visible a nd approachable for PhD students and supervisors

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