

# INSPIRE Checklist for the development and implementation of initiatives to foster responsible research practices

This checklist was developed as part of the INSPIRE project\* to support the development and implementation of initiatives that aim to foster responsible research practices, and to assist the documentation and dissemination of the initiative. The checklist can be used for new initiatives as well as for revisions.

The checklist consists of two parts: Assessment and Classification.

The **assessment** of initiatives is split into two domains: Potential effectiveness and Potential to be implemented. For both domains two indicators are defined. For each indicator several desirable traits are listed. Additionally, some suggestions to consider for future progress and sustainability of the initiative are listed.

The **classification** part starts with four categories that are used in the *spectrum of initiatives* that resulted from the INSPIRE project, shared on The Embassy of Good Science. To assist the documentation of initiatives, a list of categories follows, that might give inspiration on what to take into consideration in the development process, assisting you to have thought of all potentially relevant aspects. This part may also help others who might be inspired by your example and wish to implement it in another institute. Topics addressed in this section of the checklist will benefit the selection of relevant initiatives to those who wish to implement one.

Some initiatives are formed by a combination of a couple of smaller initiatives. It might be helpful to apply the checklist to each element of that combination separately.

\* *INSPIRE project: Inventory in the Netherlands of Stakeholders' Practices and Initiatives on Research Integrity to set an Example. VU University 2018-2020. Funded by ZonMw.*

## Assessment

### Potential effectiveness

#### Content validity

- Content matches target audience of the initiative (PhD-students, supervisors, peer reviewers,...)
- Type of initiative (training, policy, detection strategy,...) matches the objectives
- Topic(s) that are addressed match the objectives
- Alignment of audience, type and topics
- Based on scientific literature or other evidence
- Theoretically sound analysis of the problem the initiative aims to address
- Clear plan or protocol, sufficient information available, correct level of detail
- Compliance with applicable Codes of Conduct on Research Integrity
- Dealing with potential bottlenecks (see for example 10.6084/m9.figshare.9984950)
- Expertise of the developers and deployers, stakeholder involvement in development and validation
- Endorsed by a team of experts or users
- Research done on the initiative (including an available paper or preprint), followed by further development

### **Potential impact**

- Added value of the initiative
- Potential magnitude of the effect of the initiative in your institution
- Relevance and potential of the initiative for fostering responsible research practices
- Contribution to a research culture that fosters research integrity
- Appropriateness of the dissemination (timing, method, material)
- Measures for safeguarding continuity

### **Potential to be implemented**

#### **Practical and logistical feasibility**

- Amount of time and money needed to develop and implement the initiative
- Need for and availability of other sources (e.g. materials, space, infrastructure) to implement the initiative
- Required size of the target group and its recruitability
- Involvement of parties in the initiative (involvement of multiple parties can make it more complex, but also might increase the support and outreach of the initiative)
- Anticipated difficulty in getting the necessary commitment (e.g.: dependency on leadership support, acceptance of the initiative by the target population)
- Cultural awareness, dealing with diversity of the audience
- Integrability in daily research practice
- Feasibility to research type and field
- Availability of support (e.g.: peer support or a network where you can go with questions)

#### **Cost-effect balance**

- Balance between the potential effects of the initiative and the required resources
- Potential to achieve objectives with reasonable resources
- Amount of experience that is needed for optimal implementation, effectiveness and efficiency

## **Aspects to guide the progress and sustainability of initiatives**

#### **Implementation of appropriate evaluation**

- Appropriate evaluation methods were used
- The evaluation says something about the way the initiative is implemented/executed
- The evaluation says something about the effect of the initiative
- Appropriate subsequent actions followed from the evaluation (in development and implementation)
- Positiveness of surveys and reviews by users or experts

#### **Sustainability and experience build-up**

- Amount of experience that is already build-up (in one or more institutions) and how this contributes to the ease of implementation, the common trust in effectiveness, and the level of evidence and experience that might be available
- Build-up of evidence- and practice-base, development or 'maturity' of the initiative, or 'evolution' of the initiative in single or multiple organizations
- Included suggestions to deal with possible challenges (e.g. implementation bottlenecks) and measures for safeguarding continuity

## Classification

### Type of initiative

- Training (e.g. course, workshop, online module, reading material)
- Campaign to bring RI/RCR issues to the attention
- Dissemination strategy (other than campaign or training, e.g. informative website, social media)
- Consultation, advising, providing information, support
- Technological infrastructure to support or enable good research practices
- Measure to foster open science and transparency
- Development of new or revised codes and guidelines
- Nudging RCR: Facility or policy that nudges or forces stakeholders to engage in RCR
- Activity that stimulates an open research culture in which research integrity issues can be discussed
- Strategy (courses, policies) that fosters good quality of mentoring and supervision
- New or renewed assessment strategies for the evaluation of research and researchers
- Audit to foster RCR: strategy to locate breaches of RI and identify issues to be addressed
- Initiative evaluation and further development
- Other: namely \_\_\_\_

### Target audience(s) of the initiative

- Not specified or no specific target group
- Undergraduate students
- Early career researchers
  - Not specified or no specific target group
  - Graduate students (PhD candidates)
- Senior researchers
- Supervisors
- Research department leaders
- Reviewers
  - Of proposals
  - Of publications
  - Of researchers' performance
- Journal editors
- Funding agencies
- Teachers in higher education and post-graduate education
- Policy makers and authors of codes and guidelines
- RI officers (committee members, confidential counsellors)
- Librarians
- Support staff
- Other

### Topics(s) addressed (for more information on the topics, follow the hyperlink to The Embassy of Good Science)

- Not specified
- Research misconduct (Fabrication; Falsification; Plagiarism)
- Questionable (QRP) and Detrimental Research Practices (DRP), Sloppy science
- Institutional responsibilities and work environment
- Transparency and open science
- Replication
- Procedures and guidance in the research process (e.g. data management; quality control)
- Funding
- Publication practices and bias (e.g. Authorship; Peer review)
- Reporting bias and selective citation
- Assessment and Metrics
- Conflicts of Interest
- Collaborative working and intellectual property
- Research ethics
- Procedures for (potential) breaches of research integrity
- Supervision and mentoring
- Diversity and equality issues
- Work stress and work-life balance
- Other, namely: \_\_\_\_

### Level of interactivity with the audience

- Face-to-face
- Digital and interactive
- Digital one-way communication
- In print (one way communication)
- n/a

## Reporting guidelines

*Relevant information to include in documentation*

### Required resources

	Once (one period)	Periodically	Continuously	Unknown	None	Elucidations (amounts, spend on what)
Staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	...
Time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	...
Money	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	...
Facilities & equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	...

### Objective(s) of the initiative

- Raising awareness
- Teaching rules and regulations
- Training skills to enable responsible practice
- Guidance to practice with integrity
- Assist in dealing with research integrity issues
- Detect research misbehaviour
- Reduce perverse incentives
- Improve ways to foster responsible practice
- Foster trust in research and researchers
- Foster 'truth finding' in research
- Other

### Is the initiative focussed on research integrity, or are there multiple objectives of which RI is one

- Specifically targeted at research integrity/responsible research practices
- Part of a broader theme
  - Scientific research
  - Being a researcher
  - Research ethics
  - Other

### Combined or stand-alone

- Stand-alone initiative
- Required to combine with other initiative(s)
- Preferably implemented in combination

### Periodicity or frequency of implementation

- Continuous (always 'active')
- Periodically (active at times)
- Once/one period

### Level of collaboration: people needed to implement

- One or two people
- Small team
- Large team
- Combination of teams

### Level of development or 'maturity' of the initiative

- Development/design
- Experimental stage, pilot phase
- Improvements, further development
- Implementation stage
- Up and running
- Post-implementation evaluation phase
- Finished, completed

### Strategies to make known and implement the initiative (dissemination)

- Mailings and newsletters
- Presentations and demonstrations
- Media (local, regional, national)
- Social media
- Ambassadors, spokespersons, role models
- Printed media (posters, flyers, newsletters)
- Training and teaching
- Scientific publication
- Events and activities (symposium, workshop, debate,...)
- Discussion
- Institutional website
- Other

**Research phase(s) that the initiative targets at**

- All or Not specific
- Design
  - Development of the idea
  - Literature search
  - Grant proposal
  - Project group assembly
  - Ethical Approval
- Conduct
  - Data collection
  - Data handling/use of methods
  - Analysis
  - FAIR-principles (Findable, Accessible, Interoperable, Re-usable)
- Reporting results
  - Completeness
  - Authorship
  - Responsibility
  - References
  - Archiving
  - Adequate discussion
- Assessment and peer review
  - Independence
  - Quality, professionalism
- Communication
- Other

**Target discipline(s) and type of research**

- All or Not specific
- Fundamental
- Empirical
- Practice-based / Applied sciences
- Translational
- Humanities, Language, Communication, Law and Arts
- Natural sciences and Engineering sciences
- Social sciences and Behavioural sciences
- Life sciences and Medical sciences
- Interdisciplinary

**Type of institution where the initiative is implemented**

- University / University Medical Centre
- University of Applied Sciences
- Funding agency
- Scientific journal
- Other not-for-profit organisation
- Other for-profit organisation
- Research centre
- Other

**The organizational level that the initiative focusses at**

- International (multiple countries involved at national level)
- National
- Regional (e.g. cooperation of institutions)
- Institution wide
- Departmental
- Subgroup within department
- Individual

**Position of the initiator**

- Researcher
- Teacher/trainer
- Policy maker
- Leadership position
- RI professional
- Communication officer
- Other staff member
- Other

**Position of the person(s) responsible for implementation**

- Researcher
- Teacher/trainer
- Policy maker
- Leadership position
- RI professional
- Communication officer
- Research support staff
- Other staff member
- Other

**Other relevant information to describe**

- Parties that are involved in the initiative and how their involvement is structured
- Experiences so far (users feedback)
- Evaluation strategy and results so far
- Organisation of monitoring/supervision
- Suggestions to improve the initiative or the implementation of the initiative
- Contact information of the initiator(s) or implementor(s)
- Languages in which relevant documents and products are available