**Research Plan Modular Publishing Workshops**

**Part 1.  Research team** *(max. 1 page)*

* Prof Don van Ravenzwaaij, University of Groningen, PI, involvement in data collection, processing, analysis, retention, sharing, and publication.
* Dr. Sarahanne M. Field, University of Groningen, involvement in data collection, processing, analysis, retention, sharing, and publication.
* Dr. Chris Hartgerink, Liberate Science GmbH, involvement in sharing and publication of the research. To follow ethical guidelines at the RUG, Dr. Hartgerink will have no involvement with the data and participant information. Moreover, they have signed an agreement with the RUG.
* Januschka Schmidt, University of Groningen, involvement in data collection, processing, analysis, retention, sharing, and publication.

**Part 2. Purpose of the research** *(max. 1 page)*

Modular publishing is a recent innovation where each step of the research process is published, instead of only the research report. Each module is registered with a third-party (i.e., CrossRef) and linked in sequential order. This ensures the order of events as part of the scholarly record (e.g., data before results) and puts continuous transparency of the process at the centre of publishing. Modules can provide detail *and* context of research findings.

Modules are flexible and help publish outputs that are hard to capture in a traditional paper format, such as data, code, open hardware designs, grant proposals, and ethics review applications. It allows for creative communication of research (e.g., zines or podcasts), encouraging valorisation.

Increased uptake of modular publishing provides opportunities and challenges in the ongoing efforts to improve research. One such opportunity is to reshape the dynamics in the publishing landscape. Another opportunity is that it directly addresses issues that led to the reproducibility crisis, providing more insight into the research process. As modular publishing requires participants to reconsider their approach to research communication, widespread adoption can be a challenge.

We will (a) train junior researchers to adopt modular publishing, (b) align developments in modular publishing with the day-to-day needs of Dutch researchers, and (c) scope barriers that prevent researchers from adopting modular publishing. We target ‘pre-tenure’ researchers in this project as they are likely to be (1) amenable to change, and (2) needing these skills in future, if modular publishing becomes more widely adopted.

We team up with open access publishing platform ResearchEquals, to achieve these goals. As part of the project team, they support the development of training materials. They also are committed to implementing changes suggested by this project, providing a unique opportunity for the needs of Dutch researchers to be woven into this platform.

Planned outputs of this project are:

* An open educational handbook on modular publishing, curated by the wider community of practice from ResearchEquals. This will build on the ResearchEquals Cohort pilot training.
* We conduct 1 pilot training and (at least) 4 training sessions throughout the Netherlands.
* Qualitative and quantitative research results on factors promoting and hampering adoption of alternative publishing formats, specifically modular publishing.

Through this project we will (1) **transform the way researchers publish** their work; (2) **adapt open platforms for wider community use**; and (3) expand the community of practice involved in modular publishing plus its ongoing developments and **stimulate wider adoption of open science practices among researchers**. This also lays the groundwork for new data sources for qualitatively evaluating and rewarding researchers.

The result will be published as modules on Research Equals, and as two papers with traditional publishing houses.

**Part 3.  Participants** *(max. 2 pages)*

The participants are young academics at Dutch universities. The recruitment takes place through their respective faculties and university associations. The desired sample size would be 75 (15 participants per workshop, 5 workshops).

No compensation to participants will be provided, the workshop serves as a learning opportunity for participants and as-such is its own reward. Participation is strictly opt-in. The workshop is conducted in English for everybody to be able to participate.

**Part 4.  Methodology** *(max. 5 pages)*

We run five training sessions. Each of these training sessions will be combined with a focus group discussion. The first training session, serving as the pilot, will be conducted at the University of Groningen, to be organised within the lab group of the PI and the wider graduate school. During this time, we plan (at least) four further training sessions with help from OSC-NL and by reaching out to various graduate schools (e.g., IOPS) across the country.

After each training session, we make interim evaluations based on the focus group and survey responses.

The interviews are thematically analysed and the survey responses are quantitatively analysed. Based on the interim reports, the team formulates concrete improvements for modular publishing platforms. We can subsequently observe whether evaluations change in subsequent training sessions. The final evaluation is also the final report, which will be published as a preprint and submitted.

We begin training of the research officer (RO). We train the RO on modular publishing itself (train the trainer) and provide basic pedagogical training around lesson plan development. We also train the RO to recognize that their role is to support junior researchers throughout this project and help the team identify barriers and opportunities in modular publishing.

**Part 5.  Risk assessment** *(max. 1 page)*

While our study involves educational workshops and surveys, there are some minimal risks to consider:

* **Psychological Harm**: Participants may experience slight stress or anxiety during the focus group discussions, especially when sharing their opinions or experiences in front of others.
* **Confidentiality Risks**: There is a potential risk of breach of confidentiality, where participants' responses or personal data might be inadvertently disclosed.

The anticipated benefits of the research significantly outweigh the minimal risks. By participating in the workshops, attendees gain valuable skills in modular publishing, which can enhance their academic productivity and transparency. Moreover, the insights gained from this study will contribute to the broader adoption of open science practices in the academic community.

To mitigate these risks, we will implement the following measures:

* **Informed Consent**: Participants will be fully informed about the nature of the research, any potential risks, and their rights to withdraw at any time without penalty.
* **Confidentiality**: All data will be anonymised, and personal identifiers will be removed to protect participants' confidentiality, before it is published as a research module. Pre-processed data will be stored securely on encrypted drives accessible only to the research team.

**Part 6. Consent process** *(max. 1 page)*

During the workshop registration process, participants can choose to participate in the focus group discussion or not. All participants fill out a consent form at the beginning of the workshop. We have two consent forms, one for those who registered to participate in the focus group discussion and sub-sequent research survey and one for those who only participate in the workshop and the workshop feedback survey. Consent is therefore given written.

During this part of the workshop, participants are also given information on their rights.

**Part 7.  Other ethical concerns***(max. 1 page)*

Given that some participants may come from the same university or professional network as the research team, there could be a perceived conflict of interest. To address this:

* **Voluntary Participation**: We will emphasize that participation is entirely voluntary and that there are no consequences for choosing not to participate.
* **Anonymous Data Collection**: We will ensure that data collection is anonymous, and no identifying information will be linked to the responses.

**Data Privacy**: We will comply with GDPR regulations to ensure participants' data privacy and protection.

**Inclusivity**: Efforts will be made to ensure the workshops are inclusive and accessible to all eligible participants, regardless of their background or personal circumstances.