# Stamp - Standardized Data Management Plan for Educational Research

## An Approach to Improve Cross-Disciplinary Harmonization of Research Data Management

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## Introduction

While there is a strong tendency towards a harmonized, cross-disciplinary research data management (RDM) (Netscher et al., 2022), researchers require more guidelines and examples, tailored to their research discipline (Grootveld et al., 2018). Therefore, Science Europe (2018: 9) proposes developing so-called domain data protocols (DDP), "a 'model DMP' for a given domain or community". Based on this concept, the project *Domain Data Protocols for Educational Research*[1] designed the *Stamp - Standardized Data Management Plan for Educational Research* (DDP-Bildung and German Network of Educational Research Data, 2023).

Although the Stamp was designed to support researchers in educational research, we expect that RDM is rather a matter of the data processed, the methods employed, and the content of data, than of a particular research discipline or community, such as educational research. To discuss this expectation and the usability of the Stamp outside educational research, we organized various workshops with representatives from other research disciplines. In our talk at the *CoRDI 2023*, we will introduce the Stamp, recap findings of two of the workshops, introduce the next steps to examine the useability of the Stamp outside educational research, and draw some conclusions on how to adapt the Stamp to other disciplines and how it fosters a harmonized, cross-disciplinary RDM.

## Stamp - Standardized Data Management Plan for Educational Research

The Stamp composes of a so-called *basic module* and eight *content modules*, illustrated in Figure 1. The basic module structures RDM and provides information on, e.g., the project and the data processed. The eight content modules cover different topics of RDM, such as research ethics, data documentation and traceability, or data sharing. Each content modules consists

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of a minimal condition, a short statement on how to manage data in the context of the respective module to ensure processing shareable data, according to the FAIR Data Principles (Wilkinson et al., 2016).
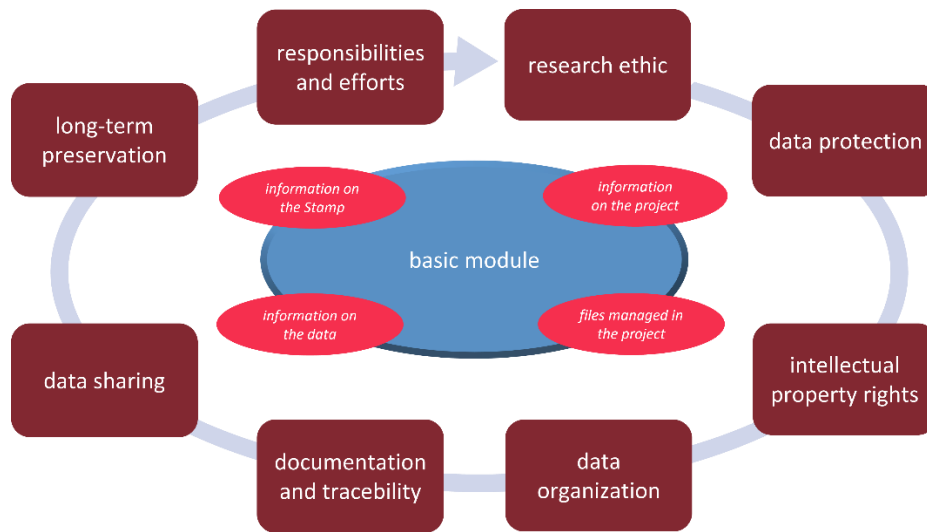


**Figure 1**: The Modules of the Stamp

To support reaching each minimal condition, content modules include *checklists*, outlining how to manage data appropriately. Within these checklists three types of auxiliary materials are referenced. Legal advice on data protection and intellectual property rights provides a deeper insight in such regulations. Guidelines refer to external guidance, best practise advice and templates of research associations, funders and repositories in educational research, the social sciences and beyond. Use cases exemplify projects in educational research, their various challenges in relation to RDM, and how these challenges were overcome.

In comparison to traditional data management plan templates, the Stamp comprises several advantages. First, instead of asking questions on various aspects of data management, the Stamp provides answers in terms of its checklists. It illustrates one way through a project's RDM, serving as a planning and a reporting tool on RDM that can be used, e.g., in funding applications or project reports. Second, the Stamp provides discipline-specific, tailored guidance in terms of its auxiliary materials, supporting RDM in educational research. Finally, the Stamp is designed to ensure shareable data, according to the idea of Open Science and the FAIR Data Principles, following up on requirements from, e.g., funding agencies, on sustainable research data.

## The Usability of the Stamp Outside Educational Research

Although the Stamp provides tailored, discipline-specific guidance, it can be used outside educational research to a great extent. According to the expectation that RDM is primarily a matter of data, methods, and content, we organized two workshops with representatives of other social sciences disciplines as well as from research disciplines beyond the social sciences. Funded by KonsortSWD (2023), the workshops brought together a wide range of RDM experts from different disciplines, dealing with wide variety of data and discipline-specific requirements on RDM and data sharing.

In sum, participants agreed on the universal character of minimal conditions, reflecting requirements of good scientific practise and replicable research. Some minimal conditions might be far reaching for some disciplines, e.g., data protection regulations are only of relevance when processing personal data. Other minimal conditions might be short reaching. For

example, the Stamp does not cover patent rights, which might be of interest, e.g., in engineering sciences.

In addition, there was consensus on the usability of checklists, at least to some degree. Educational research is multidisciplinary, characterized by a large variety of data and a highly sensitive research population (Meyermann et al., 2017). Both characteristics foster the applicability of checklists, outside educational research. For example, checklists on data protection can be used, whenever processing personal data, irrespectively of the discipline. Likewise, checklists on, e.g., documenting distinct types of data can be employed, when documenting the same type of data, such as a data matrix, processed with similar methods.

## Conclusions

In origin, the Stamp was designed for educational research, as obvious in its auxiliary materials and the terminology used, which is in line with the educational research community. When adapting the Stamp to other disciplines, minimal conditions must be adapted, first, to fit additional requirements of the respective discipline. Second, the terminology used in the Stamp needs to be 'translated', according to the language and terminology used in the respective discipline or community. Third, checklists must be adapted, e.g., by adding further types of data to be managed or further aspects of RDM, such as dealing with patent rights. Finally, auxiliary materials need to be replaced, according to guidance of the respective discipline.

Adapting the Stamp to other disciplines improves our understanding of RDM across disciplines. It highlights similarities and makes differences visible, fostering harmonization of RDM. To further elaborate the usability of the Stamp outside educational research and to examine how it supports developments towards a cross-disciplinary RDM, we started a second short-term project in 2023. Funded by KonsortSWD (2023), we will examine the usage of the Stamp in academic consulting and adapt it to institutional setting (Künstler-Sment 2023).

## Competing interests

The authors declare that they have no competing interests.

## Funding

## References

1. DDP-Bildung, and German Network of Educational Research Data (VerbundFDB). 2023. Stamp nutzen – Standardisierter Datenmanagementplan für die Bildungsforschung. Version 0.9. Frankfurt am Main: DIPF | Leibniz Institute for Research and Information in Education. Available at https://www.forschungsdaten-bildung.de/stamp-nutzen, last access 25 April 2023.
2. Grootveld, M., et al. 2018. OpenAIRE and FAIR Data Expert Group survey about Horizon 2020 template for Data Management Plans. Version 1.0.0. http://doi.org/10.5281/zenodo.1120245.
3. KonsortSWD. 2023 Consortium for the Social, Behavioural, Educational and Economic Sciences in the National Research Data Infrastructure (NFDI). Available at https://www.konsortswd.de/, last access 25 April 2023.
4. Künstler-Sment, J. 2023. Der Stamp in der Beratung. Available at https://www.iqb.hu-berlin.de/fdz/Projekte/Flyer_Stamp.pdf, last access 25 April 2023.

5.  Meyermann, A., et al. 2017.: Der Verbund Forschungsdaten Bildung – Eine Forschungsdateninfrastruktur für die empirische Bildungsforschung. Available at https://www.konsortswd.de/wp-content/uploads/RatSWD_WP_266.pdf, last access 25 April 2023.

6.  Netscher, S, I. Anders, and Ch. Henzen. 2022. Activities and Challenges in Developing Discipline-Specific Data Management Plan Templates: From Vertical to Horizontal Integration of RDM Practices. Bausteine Forschungsdatenmanagement, Nr. 1 (March 2022). pp. 13-25. https://doi.org/10.17192/bfdm.2022.1.8371.

7.  Science Europe. 2018. Science Europe Guidance Document Presenting a Framework for Discipline-Specific Research Data Management. https://doi.org/10.5281/zenodo.4925906.

8.  Wilkinson, M. D., et al. 2016. The FAIR Guiding Principles for Management and Stewardship. Scientific Data 3. https://doi.org/10.1038/sdata.2016.18.