Beyond open access: Open science in the Finnish research infrastructure

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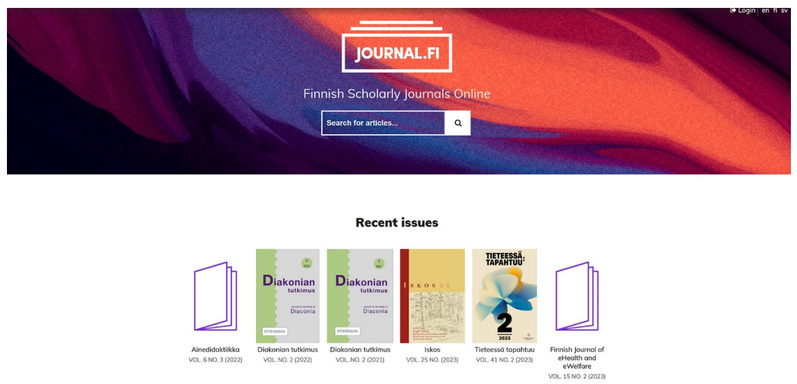
Introduction: Open access publishing may be considered just the first, yet an important, step towards research openness [***1***]. Open access has raised also some unwanted side effects like predatory journals and very high article processing charges [***2***]. We argue that a really open science infrastructure will help to combat these phenomena and will help to enhance quality of science publishing. In Finland, the Federation of Finnish Learned Societies (TSV) supports and coordinates the efforts of the scientific community for developing open science through the national Open Science and Research (OScaR) Coordination. OScaR aims to integrate open science into the Finnish research infrastructure. In this poster, we highlight actions that promote quality of scientific publication.



Infrastructure: TSV has developed several services for open science. The publishing services journal.fi and edition.fi provide a free platform for open access journals and books. Most journals published in the service follow the diamond open access principle i.e., they are free for both readers and authors. The platforms also developed technical standards for publishing e.g., metadata connections to major databases. TSV distributes Finnish state support for science publishing, which requires at least green open access (self-archiving) of the journals supported. TSV also developed expert-based evaluation of journals (JUFO) [***3***], and a peer-review label, which the publishers may use in their websites, articles and books as a certificate of the quality of peer-review [***4***].

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Open data: Opening of research data, materials and methods makes the full evaluation of preprints, manuscripts and published science possible. Reproduction is the ultimate quality control of published science. However, a traditional journal article is hardly reproducible without opening of the data and codes used for data analyses [***5***]. Data opening also makes reuse of data and meta analyses possible.

Everyone's Right to Forest Science

Everyone's right is a customary right in Nordic Countries, which ensures open access to forests for all. The right includes, e.g. camping, berry picking, and enjoying the nature. In the spirit of this millennial tradition, the Finnish Society of Forest Science thinks that access to forest science should not be restricted by pay-walls but be open to everyone. The Society started open access publishing of its scientific journals over the Internet in 1998, as one of the first learned societies to go open. Today, the journals of the Society Silva Fennica and Metsätieteen aikakauskirja are open with CC BY-SA 4.0 license, including archives back to 1913.

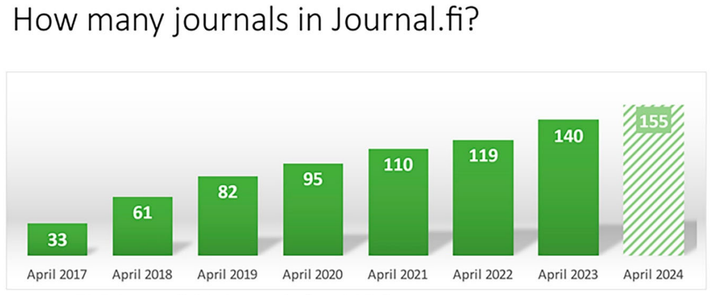
Recent developments in the field of open data by Finnish OScaR include application guidelines for FAIR data principles, outline of a Data Stewardship training program, a National Policy for Open Research Methods, including Open Software and Open Research Infrastructures and a Policy for Open Scholarship [***6***].

#InAllLanguages

Multilingualism: Possibility to read science in one's own mother tongue enhances dissemination of research results to stake holders. Multilingualism also contributes to cultural diversity in science, which opens new view points and new findings and innovations [***7***]. TSV, together with national and international partners, launched Helsinki Initiative in 2019 to promote multilingualism in scholarly communication [***8***]. One of its recommendations is to support a sustainable transition to open access of national scholar-led non-profit journals. National journals ensure the availability, quality and integrity of research-based knowledge in different languages.

Responsible assessment: Evaluation and funding of researchers tend to value authoring articles in journals with high Journal Impact Factor (JIF). International movement aiming to stop rewarding of JIF and recognise researchers for broader range of contributions is increasing [***9***]. In Finland, National Recommendation on Responsible Evaluation of Researchers promotes responsible researcher assessment (RRA) based on quality of outputs regardless of communication language and activities including peer-review and editing [***10***].

Conclusions: Open science must be seen as a part of the research infrastructure. Publishing and data repositories are services for the research community, which are provided by learned societies, commercial publishers, universities or research organisations. In the Finnish model, the research community participates in the developed and implementation of these services in a coordinated manner. Open and responsible research infrastructure enhances, among its wider objectives, the quality of published research.



References:

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