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Types of documents, productions and activities promoted by open science and eligible for evaluation

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► To cite this version:

Collège Publications, Groupe De Travail Evaluation DORA. Types of documents, productions and activities promoted by open science and eligible for evaluation. [Research Report] Comité pour la science ouverte. 2019, 9 p. hal-03640547

HAL Id: hal-03640547

<https://hal-lara.archives-ouvertes.fr/hal-03640547>

Submitted on 13 Apr 2022

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**Types of documents, productions and activities promoted by open science
and eligible for evaluation**

Committee for Open Science, Version 1, November 2019

Many stakeholders agree that the implementation of open science requires all research processes and activities to be taken into account in evaluation. This concerns both publications and research projects, individuals, collectives or institutions, and their interactions with society. The National Open Science Plan emphasizes in particular the importance of taking into account a qualitative rather than a quantitative approach and cites the Leiden manifesto (Hicks & al., 2015) and the San Francisco Declaration on Research Evaluation (DORA, 2012). Even if similar approaches existed before the open science movement, it aims to make them visible, legitimate and sustainable.

These recommendations of the Open Science Committee are based on those of the Open Science Platform Policy (OSPP), which unites the efforts and strategies of the European Union around 8 priority pillars, two of which are specific to evaluation issues: encouraging open practices and their recognition; and the deployment of a new generation of research indicators. In these recommendations, intended for all institutions piloting evaluation systems, we have identified two essential dimensions that are at the heart of open science.

1/ The Open Science Committee encourages the promotion of good practices in open science, in particular those that push for the availability of all types of documents and more broadly of research products, including but not limited to data and publications. Indeed, this availability will facilitate, on the one hand, the full recognition of the diversity of individual and collective contributions to research and, on the other hand, will encourage people to discover the content of these productions and to evaluate their quality.

2/ The Open Science Committee supports the recognition of the full range of research activities, in the plurality of disciplinary fields, as opposed to mechanisms that would focus only on scientific publications, or even on a limited part of them or on resulting indicators (McKiernan & al., 2019). Similarly, the recognition of new configurations of multidisciplinary forms of knowledge, and in particular of citizen science, must be strengthened.

To do this, the following are distinguished:

- 17 types of products and documents; Table 1: "Types of documents and productions developed within the entire research cycle and their modes of open dissemination",
- 12 types of activities; Table 2: "Types of activities valued by open science and eligible for evaluation". The activities in Table 2 may result in documentary production, and in this case it falls under the recommendations in Table 1.

In compliance with the legal and regulatory principles governing the opening and dissemination of research results and data, we recommend the acknowledged principle of "**as open as possible, as closed as necessary**" be followed.

The documents and productions referred to in Table 1 may be considered fully open only if they are made public under the conditions of a so-called free or open licence. Indeed, an object distributed without a licence can certainly be consulted by third parties, which constitutes a minimum form of opening, but its methods of reuse are not known. The final choice of licence is made by those who make their production public, in accordance with Decree No. 2017-638 (Prime Minister, 2017).

Beyond a licence, the systems for publishing, hosting and archiving documents and productions are intended to comply with the exemplary criteria defined by the Open Science Committee (2019).

The Open Science Committee recommends that all bodies and institutions involved in evaluation activities discuss, disseminate and adapt these good practices to their context. This includes, in particular, research funding agencies, publication and evaluation bodies. Communities and institutions remain sovereign in their adaptation of these recommendations, particularly in the aggregation, qualification and prioritization of types of productions and documents. The Open Science Committee expects transparency from these operations, including the justification of the reasons why certain productions or activities would not be taken into account in their evaluations.

Contact Information

This document is intended to be enriched and updated. To comment on it, please write to coso@recherche.gouv.fr

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Table 1: Types of documents and productions developed within the entire research cycle and their modes of open dissemination

Type de documents et productions	Description	Examples	Solutions for a dissemination in Open Science	Examples of dissemination
Certified publications	Any publication subsequent to a peer review process	Scientific articles, review articles, book chapters, full text communications, books, data papers, reviews...	Open access outlet and upload to a compliant open archive, preferably HAL	https://hal.archives-ouvertes.fr/
Uncertified publications	Any publication that has not gone through a peer review process	Preprints, working papers, letters, editorial material, experience reports, excavation reports, research reports, collective expert reports, films, exhibition catalogues...	Upload to a compliant open archive, preferably HAL	https://hal.archives-ouvertes.fr/
Communications	Any type of communication in an academic meeting	Posters, video presentations, slides.... except the full text...	Upload to a compliant open archive	https://zenodo.org/ https://www.snphpu.org/posters/base-de-posters_33.html
Degree dissertation	Any text produced as part of a degree, from the Master's level	Master's dissertation, Magisterial dissertation, Habilitation thesis (Habilitation à Diriger des Recherches), PhD dissertation, State thesis (thèses d'État)	Distribution via libraries for legal deposit https://star.theses.fr/ ; pushed into open compliant archives, TEL, DUMAS and HAL	http://www.theses.fr/ https://tel.archives-ouvertes.fr/ https://dumas.ccsd.cnrs.fr/

Data	Any type of data produced in the course of research, defined as factual records that are used as primary sources for scientific research and are generally recognized by the scientific community as necessary to validate research results.	Tabular data, images, sounds, videos, 3D data, sequencing, observation data, instrument data, relational databases, texts, annotations, etc.	"As open as possible, as closed as necessary" principle, FAIR principles (Findable, Accessible, Interoperable, Reusable)	https://zenodo.org/ https://www.huma-num.fr/consortiums
Data Management Plans	Plans developed as part of research projects, including formats, data description and sharing rules.		Information and filing in a specialized platform.	https://dmp.opidor.fr/public_plans
Softwares	Any type of code et interface	Distinguish between (1) services accessible online (e.g. web application), (2) downloadable-reusable software (but whose code is not open), (3) free and open-source software. Qualify its reusability: documentation, user community tutorial, development community.	Upload to an appropriate open archive managing versions and harvested by Software Heritage	www.softwareheritage.org
Patents	All types of technical and/or industrial inventions	Manufacturing processes, methodology, innovative process	From the official date of publication (generally 18 months after filing), patents are visible in the databases of patent offices; they can then be harvested by a compliant open archive. It could also be deposited in the archives of the institutions that created it.	https://bases-brevets.inpi.fr/fr/accueil.html https://www.openinventionnetwork.com/

Research projects	Any type of research project Summary, synthesis or full proposal of funded projects. The project results are processed in the other types.	Summary, synthesis or full proposal of funded projects. The project results are processed in other types	In the absence of currently defined institutional policies, the aim should be to deposit in a compliant open archive.	
Research Protocols	Description of methods, research approach	Clinical trial design	Upload to a compliant open archive	https://www.protocols.io/ https://cos.io/rr/ https://clinicaltrials.gov/
Research hypotheses	Pre-registration and sharing of hypotheses before producing experiments and data	Research blog, registered reports		https://cos.io/prereg/ Hypotheses.org
Calls	Full text of a call	Papers, Conference panels, research projects...	Upload to a compliant open archive	http://sciencesconf.org http://calenda.org
Reading and evaluation reports	Full text of all types of evaluations	Articles, books, communications, research projects	Deposited on the site of the document concerned or on an appropriate archive with a pointer to the document	https://peercommunityin.org/
Educational documents	All types of support for university level training (Master's and Doctorate)	Synopsis of courses, thematic bibliographies, reference material, handouts, exercises, tutorials, manuals, presentations (slides, video,...), MOOCs, digital prototypes	Upload to a compliant open archive Integration into the institution's open portal of educational resources	https://cel.archives-ouvertes.fr/ http://univ-numerique.fr/ https://www.canal-u.tv/ https://www.fun-mooc.fr/

Blogs and websites	All types of presentations and scientific communication for various audiences	Blog posts	Upload to an open archive in conformity or on a dedicated infrastructure	Hypotheses.org https://hcommons.org/ https://www.hastac.org/
Platforms	A set of data, tools and structures made available to a public, through a web interface or API.	<p>Platforms for visualization, mapping or photography, based on open, searchable and usable data in real time.</p> <p>Some platforms are flagship participatory research mechanisms</p>	Sustainable archive of the platform	https://www.tela-botanica.org/ https://www.tela-botanica.org/ https://www.citique.fr/ https://www.open-sciences-participatives.org/home/

Table 2: Types of activities valued by open science and eligible for evaluation

Activity type	Description	Examples
Academic animation: organization of events	Seminars, workshops, round tables...	https://www.sciencesconf.org
Academic animation: discussion	Discussing panels, workshops, moderating debates, participating in round tables...	https://www.sciencesconf.org
Expertise	Consulting (associations, companies, administrations...), Juries (prizes, medals...), support for public policies	https://www.anses.fr/fr/content/avis-et-rapports-de-lances-sur-saisine
Scientific culture: communication	Interviews, conferences for the general public, popular articles, demonstration videos...	https://www.jsb.be/ https://les-savanturiers.cri-paris.org/ https://sms.hypotheses.org/
Social impact	Any type of valorization, whether social, economic, political... It can include the diffusion and accompaniment of any type of document and production of the table	http://www.enseignementsup-recherche.gouv.fr/cid67054/www.enseignementsup-recherche.gouv.fr/cid67054/www.enseignementsup-recherche.gouv.fr/cid67054/les-satt-societes-d-acceleration-du-transfert-de-technologies.html
Training	Initial teaching, professional training, supervision of students and young researchers, organization of research schools, training in scientific integrity	

Partnerships	Search for, identification of partners, setting up partnerships	Building of a groupement d'intérêt public (GIP), groupement d'intérêt scientifique (GIS), groupement de recherche (GDR)...
Direction and management	Collective management and working group, project, training, scientific network, infrastructure, platform, database management, Scientific integrity officer	Head of a network (GIP, GIS, GDR...), Infrastructure manager
Participation in journals and platforms	Editor-in-Chief, Editorial Board Member, Reviewer, Content Moderator, Community Animator	
Collaborative innovation	Any approach involving several actors or partners in order to develop an innovation object or project. This includes crowdsourcing, crowdfunding, participatory sciences...	
Data creation, collection and/or curation	Creation of data sets for hypothesis testing, enhancement of the expertise of a research group, elaboration of thesis subjects, training of Master students.	http://www.dossiers-flaubert.fr/folios.php?corpus=g226&volume=1&num_folio=1&access=volume&viewf=par_cote