

SciELO – Priority lines of action 2019-2023

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1. Introduction

This document updates the priority lines of action for the SciELO Program for the next five years, in order to guide the development of national journals and collections of the SciELO Network, including the policies for creating, developing and operating collections, editorial policies oriented to its improvement in line with the international state of the art, aligned with the best practices of open science and the national research and scholarly communication priorities. The most direct practical application of the priority lines of action are the indexing criteria of the national collections for the admission and permanence of journals, which should be updated periodically according to progress made in the implementation of the priority lines (1).

The priority lines of action for the years 2019-2023, which are proposed to be approved at the SciELO Network 20 Years Meeting, on September 24-25, 2018, provide continuity and update of the lines defined in the SciELO Network 15 Years Meeting (2).

2. Background - the SciELO program, network, collections and journals

The SciELO Program was created 20 years ago and developed as an international cooperation for the development of national research communication capabilities and infrastructures through journals published nationally by learned societies, professional associations, universities and other research and development institutions. These journals play an essential role in national research systems by making it possible to communicate a significant proportion of national and foreign research. The SciELO Program promotes the integration of quality journals and the research they communicate in the global flow of scientific information, thus, contributing to strengthen and expand its visibility, impact and credibility (3).

The implementation of the SciELO Program follows three principles. The first is the conception of scientific knowledge as a public good, from which open access is adopted in the golden route as a form of journal publication. This principle also guides the ongoing transition process of the program and its journals to the modus operandi of communicating open science research. It is also from this principle that the SciELO Program positions itself as a global public good. The second principle is the network modus operandi as a strategy and a means of scaling up cost rationalization, maximizing the exchange of experiences and learning, and progressively increasing the visibility of journals, national collections and the entire network. The SciELO Network directly or indirectly involves all actors related to research communication, such as national funding agencies, scientific societies, professional associations, universities and other journal publishing organizations, journal editors and editorial committees, authors and national scholarly communication supporting instances, particularly those operating the national SciELO Network collections. This networking principle involves the operation of national collections with decentralized governance, management and financing. The make-up and development of

the collections are assisted by a national scientific committee representing different disciplines and thematic areas which is responsible for the admission and permanence of journals in their respective collections (4). Even as part of the network concept, the development of collections is centralized in research communities.

The third principle refers to the alignment with the state of the art of scholarly communication, the adoption of standards and best practices of scientific publishing and monitoring of trends and innovations. Under this principle, SciELO promotes and conditions the certification of national collections and the indexing of journals to increasingly rigorous and transparent quality control of editorial, indexing and communication processes. Compliance with this principle is essential for the interoperability of journals and research, as well as being the factor that promotes the adoption and adaptation of innovations.

The SciELO Program and its network of national collections structured under these principles form the conditions for forming national policies to support quality journals, according to the conditions and priorities. In this sense, the SciELO Network is implemented through a collection per country under the political and financial leadership of national science and technology organizations operated by an organization of recognized national leadership.

The design of the SciELO Program and its implementation through national collections is carried out in accordance with these principles through the SciELO Publication Model, which comprises three main functions. First, the indexing that includes the evaluation of journals for admission and permanence in collections. Second, the storage, preservation, retrieval and publication of complete texts of the documents in the context of the journal collections. Third, dissemination and interoperability. The SciELO Publication Model and its methodological and technological components are updated periodically.

The priority lines of action of the SciELO Network are established based on the principles and objectives of the SciELO Program to promote the common development of national journals and collections and implemented by the SciELO Publication Model.

3. Alignment with open science

The most important innovation, which is gradually renewing the processes of making and communicating research and, therefore, has impacted the functions and functioning of journals, is motivated by the open science modus operandi, which advocates the transparency of processes and the opening of contents, in order to promote its reuse and replicability. The classical flow of scholarly communication was enriched by new stages and new instances beyond the journals. Thus, before submitting a manuscript to a journal, the author may choose to make it publicly available as a preprint and that data, software codes, and other materials should also be available before or after their formal publication in a journal. The practice of open peer review is also growing as an option to strengthen transparency. The adoption of open peer review represents a huge challenge for the journals of the SciELO Network, which

traditionally operate with evaluation where the identity of the reviewers is concealed from the authors.

Since the main funding of research comes from public resources, the absence of mechanisms to ensure the preservation of content and the demand for celerity in research communication, it is understandable that, besides the decisive contribution to the advancement of knowledge and its democratization, the choice rests on the use of preprints and the safe and public storage of data and software codes in repositories.

The SciELO Program, since its launch in 1998, follows the gold open access route of scientific publishing, i.e. SciELO journals publish all articles in open access, without any type of embargo. Thus, SciELO journals already fulfill an essential part of the openness advocated by open science. However, the open science modus operandi includes the opening of processes and contents before or in parallel to the publication of articles in journals. Irrespective of the pace and extent of open scientific practices, journals coexist with other instances of research communication:

- Preprints - Manuscripts communicating research results are publicly disclosed by their authors through preprints servers before they are submitted to a scientific journal for evaluation for publication. For the purposes of this document, a preprint is considered a manuscript ready to be submitted to a journal, which receives a DOI identifier when it is loaded onto a preprint server and made public in open access. The preprints aim to accelerate the communication of research, to establish precedence of authorship of new proposals, processes and discoveries;
- Research data repositories and programming codes - the data and software codes underlying the articles are disseminated through repositories, accompanied by metadata that defines the data authorship, as well as its access and processing structure. The opening of data, software codes and other materials is aimed at ensuring its preservation, allowing its reuse and facilitating its evaluation and reproducibility;
- Open peer review - Peer review of manuscripts is the validation function of research that journals use to decide on the publication of the manuscript. It is, therefore, an essential component of research communication. The SciELO Network collections only index and publish peer-reviewed journals. Open peer review contributes to the transparency of manuscript evaluation processes. However, it is still a limited practice, but one that must increase progressively. The adoption of one or more of the different variations of open peer review is the journals' editorial boards responsibility.

The alignment of SciELO journals with open science is an advance that implies in contributing decisively to accelerate research communication and maximize the transparency and interoperability of the entire editorial process. On the one hand, journals are called upon to adopt new editorial practices and, on the other hand, strengthen coexistence and interoperability with new instances in the research communication flow, in particular preprints servers and data repositories and software codes. The implementation of this progress

requires, on the one hand, the updating of the SciELO Publication Model and, on the other, the renewal of the journals' editorial policies.

Next, the main changes in editorial policies and practices of journals in favor of alignment with open science editorial practices are highlighted.

3.1. Acceptance of previously deposited manuscripts on a preprint server

Acceptance of manuscripts already deposited on a preprint server should be informed in the instructions to the authors. In the submission form of the manuscript, the author must indicate if the manuscript is available in a preprint server, indicating the name and electronic address. The journal may specify the recommended preprints repositories. In particular, it is important that the preprint server interface indicates that the manuscript has been published and reports the link to the journal article. There are several examples of policies adopted by major journals on the acceptance of preprints for evaluation for publication documented on Wikipedia - <https://bit.ly/1iBJW4L>.

3.2. Continuous publication

The continuous publication mode aims to accelerate research communication, publishing the articles as soon as they are approved and edited, avoiding the practice of submitting the articles to unnecessary waiting, pending the finalization of the next edition. The only and simple change needed is to replace the pagination of the article in a volume with a unique identifier of the article. In addition to speeding up online publishing, this measure does not mean a limitation to the journals that persist with the printed edition. SciELO strongly recommends the adoption of continuous publication as a best practice in research communication.

3.3. Management of citations and referencing data, codes and materials

The open science modus operandi requires authors to make available the articles' underlying content that communicate the research results. This deposit must occur on the authors' initiative at some point in the publication flow and is materialized by two possible types of action. The first is to make available the content of the research that includes the research pre-registrations when applicable, the deposit of the data used in the research, the methods of analysis used, including the codes of the computer software. For each type of content there are repositories available on the Web, in many cases related to specific subjects or subject areas. The second action is to elaborate a description of the data that has been deposited oriented to the use of the data, which is done through so-called data articles, data notes, or research notes. By using these open methods and materials, authors can communicate their research combining three different and complementary modes of communication: the data and its metadata, the description of the data and the articles themselves.

It is up to the journals to require authors to cite and forward all content underlying the articles, whether by authors or third parties. This requirement must be verified in the first evaluation of the manuscripts received to determine whether they are acceptable to continue to peer review. The journals, individually or by subject groups, should also begin to accept data articles.

In order to facilitate the adoption of citation and reference management policies, the SciELO Program adopted the TOP Guidelines (Transparency and Openness Promotion) prepared by the Center for Open Science (COS), which identifies eight criteria or categories (C1 through C8) for transparency (5) and developed the Guide for promoting the openness, transparency and reproducibility of research published by SciELO (6) journals. The eight criteria are as follows:

- C1. Citations
- C2. Data transparency
- C3. Transparency of analytical methods (codes)
- C4. Transparency of research materials
- C5. Transparency of project and analysis
- C6. Pre-registration of studies
- C7. Pre-registration of analysis plans
- C8. Replication

The implementation of each of the criteria varies in three levels according to the degree of demand and control of transparency. Level 1 occurs when the journal merely informs the authors of what a particular criterion means without, however, requiring or verifying compliance. At Level 2, the journal requires authors to meet the criteria and, at Level 3, conditions the publication of the article to fulfillment of the criteria.

The SciELO recommendation is that, from 2019, journals will adopt the first five criteria (C1 through C5) in Level 1 and progressively advance to Levels 2 or 3 in the next 3 to 5 years. Criteria 6 to 8 are optional for most journals, but mandatory or recommended for certain types of documents in some areas, such as mandatory pre-registration of clinical trials. Generally speaking, it is expected that all SciELO journals will adopt most of the criteria over the next five years, starting with the first requirement level.

Journals are free to define or accept the data repositories and software used by the authors. However, the SciELO Program maintains an updated list of recommended research and software data repositories that can serve as a reference for journals (7).

In addition to defining the criteria for transparency on the items underlying the articles and the respective level of requirements adopted, the journals should inform the authors about the data and software citation standards adopted in the instructions to authors, as well as documenting how they should cite different types of documents. The SciELO Program publishes an orientation guide on how to cite data files and program sources (8).

3.4. Transparency and openness of peer review

The type of peer review that each journal adopts is the sole responsibility of its editorial staff. The SciELO Program accepts all types of manuscript evaluation, provided the journal explicitly indicates them in the instructions to the authors.

Regardless of the type of peer review that journals use, it is advisable to strengthen their efficiency and transparency and to advance their openness as a means of learning and assessing the advantages and problems, acceptance and rejection of open peer review. Therefore, the following is recommended:

- All SciELO journals should operate with an online manuscript management system. It is the national coordination institutions responsibility to ensure compliance with this criterion as an indexing condition. Journals can have their own system or service or use any institutional or national system or service, or even hire a commercial service. What is important is that the system or service used should be able to report at all times the location of a manuscript in the evaluation flow, produce reports and statistics on the transactions carried out, and calculate the average duration of the stages of the evaluation process;
- Journals should inform the authors of the types of peer review used. For this, the SciELO prepared an introductory guide to the types of peer review (9);
- Ask the corresponding author to inform whether the manuscript is available on a preprint server and, if so, to inform the server name and address of the manuscript on the server;
- When peer review is structured with the support of associate editors or section editors who are responsible for guiding the evaluation process, it is recommended that the journal publishes the editor's name in the approved articles;
- Provide reviewers with the option of revealing their identities in communicating with the authors;
- Provide reviewers and authors with the option to mutually reveal their identities during communications;
- Provide reviewers and authors with the possibility of publishing the review reports along with the article;
- Implement open and public peer review.

Journals should continually refine the evaluation of newly arrived manuscripts to determine their referral to the peer review process to prioritize the timely dedication of reviewers to manuscripts with potential for publication. The initial evaluation verifies compliance with the formal requirements and is usually done by the technical secretariat of the journal, and the qualification of the research and its compatibility with the scope of the journal, which is done by the editor-in-chief and/or associated editors.

4. Best editorial practices - instructions to authors

Best editorial practices in this document comprise the set of processes, standards, procedures, products and services that are adopted, adapted and used by the editorial bodies of the journals and are recognized as efficient, effective and available for the governance, management and operation of the functions and evaluation flow activities, production and dissemination of articles that communicate research or test results. Compliance with best practice defines the degree of professionalism of the journal.

The mission and purpose of scientific journals is to record and communicate the advancement of knowledge in certain disciplines or subject areas. Therefore, they have an editorial staff made up of experts who perform the key function of evaluating the manuscripts sent to them by researchers for publication. The fundamental role of arbitration is complemented by a set of administrative and operational functions to support the entire workflow around a manuscript that begins with receipt and ends with the publication and disclosure of those that are approved. Best editorial practices apply to all journal functions; they are essential and must be continuously updated and improved in the primary function of evaluation.

The systematization of best practices should be formally made by the journal, on the one hand, in internal documents that define the operational flow, the evaluation process of the newly arrived manuscripts, the guidelines to the editors and referees, and on the other, in public documents, especially instructions to authors.

4.1. Institutionality, mission and objectives

Journals should thoroughly document their institutionality, including the identification of the institution directly responsible for the journal and its hierarchical dependencies, the motivation and date of its creation, historical evolution and documents of a statutory nature. The mission and objectives of the journal should be explicit and must be periodically reviewed. As a consensus, the mission and objectives of journals should contribute to the advancement of scientific knowledge, be it related to the development of a discipline, thematic area, field of research, or academic school. The formulation of the mission and objectives of a journal are basically differentiated by the explicitness of the topic or topics it prioritizes, the types of research that it communicates and circumstantially by geographic or language restrictions.

4.2. Editorial policy

The editorial policy of a journal is derived from its mission and objectives and is formulated and implemented around the thematic scope of the research that it intends to communicate and the level of rigor and selectivity applied in the evaluation of the manuscripts. The main objective of the editorial policy is to guide authors on the type of research the journal prioritizes, the evaluation process applied and the manuscript presentation forms, and the orientation to the editorial board on the uniform approach on manuscript evaluation.

In all cases, editorial policy is expected to be in line with best editorial practices set forth in the latest guidelines and recommendations of international bodies and committees, which define the communication standards for the research, either for specific areas or for general application. Among the main organizations especially related to open access publishing are the Committee on Publication Ethics (COPE), the Directory of Open Journals (DOAJ), the World

Association of Medical Editors (WAME) and the Open Access Scholarly Publishers Association (OASPA), which publishes the Principles of Transparency and Best Practice in Scholarly Publishing (10), which the SciELO Program recommends that it be adopted in editorial policies of journals and as an indexing criterion for national collections.

The editorial policies of the SciELO journals must also comply with the indexing criteria of the respective national collections and the methodological and best practices guidelines of SciELO.

4.3. Open Access – *Creative Commons* license attribution

SciELO journals are published in open access in the gold route format, that is, without any embargo and according to one of the access licenses of the Creative Commons system. SciELO's default license is CC-BY, which allows access to full texts, download to the user's computer, sharing with other users, production of derivatives and republishing without costs, provided that the original is duly cited, in particular, acknowledging the authors, the journal and with a link to the text. The CC-BY license qualifies the article as a public good and allows its complete interoperability with other indexes, products and information services. Other licenses, such as NC (non-commercial) or ND (non-derivative), are acceptable, but the articles under those licenses are now in use and interoperable.

4.4. Indexing in the *Directory of Open Access Journal* (DOAJ)

DOAJ is the international reference directory for the registry of open access journals that comply with best editorial practices, in accordance with the provisions of the Principles of Transparency and Best Practice in Scholarly Publishing. In particular, being indexed in DOAJ means that the journal is not predatory. All journals in the SciELO collections should be indexed in DOAJ.

4.5. SciELO Publishing Schema / Journal Article Tag Suite

All SciELO journal articles must have the complete text marked in XML, according to the SciELO Publishing Schema which follows the Journal Article Tag Suite (JATS) standard. Compliance with this criterion is essential to ensure, on the one hand, reliable operation of journals on new technology platforms and, on the other, to make use of the interoperability and presentation services that require the full text marked in XML. The adoption and operation of SciELO Publishing Schema is the national coordination institutions responsibility.

4.6. DOI – Digital Object Identifier – Articles' persistent identifier

All articles and all other types of documents published by SciELO journals must have a DOI identifier, which remains unchanged forever, even if the location on the Web is changed.

SciELO requires journals to register the DOI of the articles in the CrossRef repository, with their metadata, in order to maximize all interoperability options. In particular, it is also recommended to record bibliographical references of articles citations to feed the database Initiative for Open Citations (I4OC).

4.7. ORCID – Researchers' persistent identifier

All articles published by SciELO journals must have the unique identifier of each of the authors registered with their respective institutional affiliation. Mandatory adoption of ORCID may begin with the corresponding author, but must be progressively extended to all authors. The progress of institutional and national policies regarding the mandatory use of ORCID by researchers will help national coordination institution and SciELO journals to fully meet this criterion.

4.8. Articles authorship - authors contribution

Authors of articles published in SciELO journals with two or more authors must specify the contribution of each one to the end of the text. Journals must follow the authorship acceptance pattern of their respective subjects or subject areas, but in all cases, it should be required as a minimum authorship criterion that all authors state that they have participated in the discussion of the results and have read, reviewed and approved the article's final text.

4.9. Digital preservation

All SciELO journals should have a system for the digital preservation of articles according to international standards that guarantee their access and future reading. The SciELO Program is establishing a preservation network with the participation of at least three institutions that coordinate the national collections and which have an infrastructure capable of storing with security and high availability large and increasing amounts of texts so that the articles are duplicated in servers distributed between different countries and recoverable in any future event.

4.10. Marketing and Social networks

Journals should develop marketing plans and procedures in accordance with their financial, equipment and experience conditions. Scientific marketing plans and practices can build on simple, sustainable approaches and develop in complexity, according to the journals' conditions.

With regard to strengthening the sustainability of journals, "institutional marketing" is important among entities that directly or indirectly influence financing, credibility and political support. Two actions are recommended: first, an annual report on the performance of the journal; and (b) an updated plan for the development of the journal for the coming years.

Besides events aimed at the journals target audience, such as conferences and courses, the privileged and priority means of dissemination is the Web, through interest lists or generic social networks such as Twitter and Facebook, as well as academics such as Academia.edu, Mendeley or ResearchGate.

Two typical marketing actions for the dissemination and positioning of journals are, first, the press releases related to the new numbers or specific articles, which can be elaborated by the authors themselves. The SciELO in Perspective blog is available so that all SciELO Network journals can publish posts such as reviews, interviews or press releases. The second is to develop and keep up-to-date a list of e-mails from researchers related to the subjects the journal publishes in order to send them periodically the most recent publications.

The dissemination of articles in academic social networks is essential and, again, the authors are the ones who are better prepared for such dissemination. Once an article is approved, journals should encourage authors to disclose it on social networks. The same must be done by the editors.

5. SciELO Analytics – open indicators platform

The periodic evaluation of the performance of national journals and collections of the SciELO Network is an integral part of the objectives of the SciELO Program and the functions of the SciELO Publication Model. The evaluation of journals for indexing purposes, whether for admission or permanence in national collections, should follow what is documented in the respective indexing criteria. It is the responsibility of the coordinating bodies and the national collections advisory committee to periodically carry out the indexation assessments and take the corresponding decisions.

The national coordination institution shall carry out and publish at least an annual evaluation of the performance of the collection and thematic areas. Evaluations of individual journals, generally comparing with other sets of journals, should be published by the journals themselves. The SciELO Program recommends the following types of evaluation: (a) Compliance with indexation criteria and priority lines of action; (b) Number of accesses to full text HTML files, abstracts HTML and PDF; (c) References in the Web and in social networks according to

altmetrics; (c) Google Scholar H5 Index; and (d) Citations in the bibliometric indices Web of Science, Scopus and Dimensions.

The portal analytics.scielo.org periodically publishes in open access the updates of reports, statistics and bibliometric indicators obtained from the metadata of the documents published by the SciELO Network. The portal also adds indicators produced by companies or researchers that are publicly available. To do so, the SciELO databases will be made available for public access and studies, and the analytics.scielo.org portal will be available for the publication of indicators and evaluation systems that are updated at least annually and are available under the authors responsibility and a Creative Commons license.

6. Implementation of the Priority lines of action

Priority lines of action may be updated for error correction or for better understanding. However, updates that imply actions or impact on the national collections must be previously approved by the Network.

The implementation of the priority lines is planned for the next 3 to 5 years, in accordance with the national conditions and priorities defined by the coordination institutions. The general thrust is that national journals and coordination institutions will, in the near future, adopt most, if not all, of the best editorial practices outlined in this document. Alignment with open scholarly communication practices may require more time, considering that they are innovations that require learning and familiarization by national coordinators and editors, as well as promotion and support from national research and development agencies and, above all, researchers. The table below suggests three options for adopting the mandatory or highly recommended criteria of the priority lines of action: recommended, acceptable and avoidable.

Chart 1 – Implementation plan of the das Priority lines of action of the SciELO Program

Criteria		Implementation deadline		
Section	Name	Recommended	Acceptable	Avoidable
3	Alignment with open science			
3.1.	Acceptance of preprints	2019	2020	2021
3.2.	Continuous publication	2019	2020	2021
3.3.	Data Citation Management			
	Level 1 - C1 to C5	2019	2020	2021
	Level 2 - C1 to C5	2020	2021	2022
3.4.	Peer review: transparency			
	Online manuscript management	2019	2019	2019
4	Best editorial practices			
4.3.	Creative Commons Licenses	2019	2019	2019
4.4.	Indexing in DOAJ	2019	2019	2020
4.5.	XML - SciELO Publishing Schema	2019	2019	2020
4.6.	DOI	2019	2019	2020
4.7.	ORCID	2019	2020	2021
4.8.	Authorship	2019	2019	2020
4.9.	Digital preservation	2019	2020	2021

Bibliographic References

- (1) PACKER, A.L., et al. Los criterios de Indexación de SciELO se alinean con la comunicación en la ciencia abierta [online]. *SciELO en Perspectiva*, 2018 [viewed 15 August 2018]. Available from: <https://bit.ly/2MU3d1w>
- (2) SciELO. Líneas de acción para los años 2014 a 2016 para incrementar la visibilidad de las periódicos y colecciones de la Red SciELO, [viewed 15 August 2018]. Available from: <https://goo.gl/z2f348>
- (3) Packer, A.L., Meneghini, SciELO a los 15 años: raison d'être, los avances, los retos y el futuro. In: PACKER, A.L., et al., orgs. *SciELO - 15 Años de Acceso Abierto*: un estudio analítico sobre Acceso Abierto y comunicación científica. Paris: UNESCO, 2014. ISBN 978-92-3301-237-0. Available from: <http://dx.doi.org/10.7476/9789233012370>.
- (4) Packer, A.L., Cop, N., Santos, S.M. La Red SciELO en Perspectiva. In: PACKER, A.L., et al., orgs. *SciELO - 15 Años de Acceso Abierto*: un estudio analítico sobre Acceso Abierto y comunicación científica. Paris: UNESCO, 2014. ISBN 978-92-3301-237-0. Available from: <http://dx.doi.org/10.7476/9789233012370>.
- (5) COS. Directrices para la Transparéncia y promoción de la apertura (TOP) en las políticas y prácticas de las Periódicos[online]. OSF. 2017 [viewed 15 August 2018]. Available from: <https://osf.io/h6mbk/>
- (6) SciELO. Guía para promoción de la apertura, Transparéncia y reproducibilidad de las investigaciones publicadas por los periódicos SciELO [online]. SciELO 2018. [viewed 15 August 2018]. Available from:
- (7) SciELO. Listado de repositorios recomendados de datos de investigación [en elaboración]
- (8) SciELO. Guia de citas a datos de investigación [en elaboración]
- (9) Guideline on types of peer review within journal publishing flow. SciELO 2018. Draft version. Available from: <https://bit.ly/2nJvM6w>.
- (10) Principles of Transparency and Best Practice in Scholarly Publishing. [viewed 15 August 2018. Available from: <https://bit.ly/2MsswKT>

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