


Open Science and the United Nations' Sustainable Development Goals in scientific publishing

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In September 2015, the United Nations (UN) member States adopted and defined a plan to end extreme poverty, combat inequality and injustice, and protect our planet, which should be achieved by 2030. Aligning scientific research and academic vocation with the Sustainable Development Goals (SDGs) is crucial for a sustainable future (RODE; BIOJONE, 2023).

Associação Brasileira de Editores Científicos (ABEC) Brasil is a signatory to the SDG Publishers Compact Program (ONU, 2015), which was developed by the UN in collaboration with the International Association of Publishers, designed to inspire scientific publishers to develop sustainable practices and publish books and journals that help inform, develop, and inspire action toward sustainable development, highlighting ten points of action that not only scientific editors, but also everyone involved in the editorial process, can commit to undertaking to accelerate progress toward achieving SDGs (RODE; BIOJONE, 2023).

Open Science is a global movement that makes scientific knowledge open and shared for the scientific community in the world and for society as a whole. According to United Nations Educational, Scientific and Cultural Organization (UNESCO, 2021):

Open Science is the movement to make scientific research and data accessible to all. It includes practices such as publishing open scientific research, campaigning for open access, and generally making it easier to publish and communicate scientific knowledge. Additionally, it has other ways to make science more transparent and accessible during the research process. This includes open notebook science, citizen science, and aspects of open-source software and crowdfunded research projects.

According to RODE; GARCIA (2023):

Open science encompasses more than just the accessibility of scientific knowledge. It represents the ideals of inclusivity, equity, and sustainability, not only by granting access to information but also by fostering an environment in which the knowledge creation process embraces diversity and ensures a lasting positive impact.

Open Science practices are directly linked to the SDGs, and it is possible to relate some of them to SDGs. To achieve SDG 4, quality education, for example, we consider that opening the peer review process is a desirable practice.


You do not need to open everything immediately; you can do it in stages. For example, first, inform the editor responsible for evaluating the paper. This is a Scientific Electronic Library Online (SciELO) recommendation (SCIELO, 2022). In the second step, you can disclose the names of the authors to reviewers and, after that, disclose the names of the authors and reviewers during the review process. In the fourth step, you can publish the reviews without mentioning the name of the reviewers. Finally, the review is completely open.

Although peer review is a reliable practice, it is not flawless, despite its rigor.

The biggest challenge is to find reviewers and, most importantly, good referees who do it ethically and in a way that helps improve the article. That's why ABEC Brasil has constantly produced courses, webinars, and a distance learning course to prepare reviewers and create a positive review culture. Has it solved the problem? No, but we have tried.

Other recurring problems include the slowness of the process, prejudiced or biased opinions, poor quality of assessment, lack of transparency and corporatism, and the lack of recognition of evaluators. I think the best way would be to financially reward good open reviews. These reviews would be assigned a DOI and would be valid as scientific production for the reviewer.

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Peer Review History: Invited paper, not peer reviewed.

With COVID-19, it was necessary to quickly publish research on the disease, and with that came an effort to evaluate articles more quickly, fast-track, which normally takes months to do. I cannot understand why the process cannot continue to avoid a delay in publication.

In addition, some journals, such as *Research Involvement and Engagement* (Springer Nature, 2023), use patients and academics to evaluate scientific papers, opening the process to society's participation. The final decision belongs to the editor-in-chief, but why could not society participate of it?

Nowadays, with artificial intelligence, we will have to control its use not only in the peer review process, but also in the entire editorial process. In fact, peer review has benefited a great deal in detecting plagiarism (PRÍNCIPE; RODE, 2022).

To achieve SDG 5, gender equality, the editor-in-chief must be careful to use reviewers with gender diversity in scientific research, as well as between authors and the editorial board, to promote inclusion, diversity, and equality, creating an inclusive and equitable culture. It is also very important to adopt inclusive and non-discriminatory language.

To achieve SDG 10 and reduce inequalities, the editor must be careful to use reviewers and editorial board from different regions of the world and avoid helicopter research to improve inclusion and ethics in global research.

The Nature group encourages authors to cite relevant local and regional research, improve the quality of their quotations, and promote citational justice. The new framework improves inclusion and ethics in global research collaborations among wider efforts to end exploitative practices (NATURE, 2022), among other recommendations linked to SDGs.

According to RODE; GARCIA (2023), "Open Science is a path of no return. You do not have to be the first to join, but you should not be the last, as you risk losing your role in history."

As I said before, artificial intelligence is our current issue. I think that in the next five years it will control the entire editorial process, and the challenge is to do so in a transparent and ethical way. We will have softwares to help us, but the editor's final decision will never be replaced by any machine.

One recommendation to editors is to be patient, ethical and never give up.

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