

The Development Status of Open Science Policy in Universities

Ruolan Wang*

Library of Southwest Petroleum University, Chengdu, 610500, China.

* Corresponding Author

Abstract

Open science is a new paradigm of global scientific research. More and more attention is being paid to open access development policies for academic journals and books, universities in the US and the UK are leading the way in developing open access policies. China has taken open science as a basic principle to promote academic exchanges and research dissemination. The Chinese Academy of Sciences and Tsinghua University are at the forefront of the open science movement in Chinese universities. We should continue to pay attention to the development of open science, explore the existing problems, and provide new ideas for the literature construction of university library.

Keywords

Open science, University library.

1. Introduction

open access (OA) means that authors publish their scientific achievements on the Internet, allowing the public to freely obtain, copy, disseminate or make any other legal use on the basis of not infringing authors' reserved rights [1]. The development of open access resources promotes the increasing number and influence of open access academic papers in universities. This is closely related to the increase in the number of open access press, the innovation of publishing models, and the establishment of institutional knowledge base [2]. In the past ten years, the number of papers published in WOS database has increased rapidly, among which the OA paper presents an explosive growth, while the article publication cost is also rising sharply. According to the research, the number of OA papers published in China in 2020 totaled 119,878, five top-ranking Chinese universities were surveyed, which published 12,142 papers, accounting for 30.7 percent of the total [3]. Therefore, the research on the development of open access in university libraries is of great significance to the formulation of open access policy and the guarantee of literature resources in the future.

2. The development of open journals and open books

2.1. Open journals

In September 2018, national research funding organizations formed coalition S with the support of the European Commission and the European Research Council (ERC). The Initiative to Accelerate the Transition to Full and Immediate Open Access to Scientific Publications (The initiative is called the "S-Plan" basic document, or S-Plan.) was launched by them. The release of the S Plan promotes open access to academic journals [4]. In 2022 springer nature published the first population-wide analysis of its pure Open access (OA) journal series, which includes more than 580 pure OA journals [5]. In October 2022, the Royal Society of Chemistry (RSC) announced its plan to achieve full open access to all RSC-owned journals within five years, becoming the first academic publisher of chemical sciences to commit to full open access [6]. And one of the first society publishers committed to an open access future. In November 2022, the Institute of Electrical and Electronics Engineers (IEEE) submitted a list of "Open Publishing

Conversion Journals" to Coalition S, following Plan S, more than 160 IEEE Hybrid Open Access (OA) journals have been converted into "open publishing conversion journals" [7]. In addition to IEEE, more than a dozen publishers, including Elsevier, the American Chemical Society (ACS) and the Association for Computing Machinery (ACM), have submitted their open publishing conversion journal plans to the Consortium.

2.2. Open books

Books are also moving towards open access. Directory of Open Access Books (DOAB) added 18,323 open access books in 2022, and the platform now includes more than 65,000 peer-reviewed open access books from more than 600 publishers worldwide. The continuous development of open resources helps university researchers obtain more academic research information more easily.

3. Open access policies in American and British universities

Duke University was one of the first universities in the US to adopt an Open Access (OA) policy. In 1998, Duke University's School of Law became the first institution in the United States to make all articles published in its sponsored law journals, including back issues, freely available on the Web when it began offering the full text of print journals for free on its faculty website. In 2010, the Duke University Academic Council approved an OA policy for all faculty and staff at the university. Academic papers written by namely teachers and other academic resources of duke university (for example, the dissertation) can be stored in duke university library knowledge base (Duke Space) and provide free and open access services, meanwhile establish the Scholars@Duke profile of teachers.

University College London (UCL) is one of the first universities in the UK to develop Open Access (OA) policy. In 2009, two Scholarly publishing guidelines were adopted by the UCL Academic Board to support UCL's scholarly activities and Scholarly Mission, including: (1) in the case of copyright licensing, copies of all research results should be stored in open access repositories of UCL Discovery; (2) Each UCL academic researcher shall be responsible for providing and maintaining detailed information about his or her academic published work in the relevant UCL database in support of the OA and to meet the UCL's requirements for accurate recording of research results.

In 2015, The University of Manchester published the OA Publication Policy, which applies to all researchers and students and is based on individual research funders, for example, the Higher Education Funding Council for England (HEFCE), the UK Research and Innovation Agency (UKRI) and the Wellcome Trust developed relevant requirements for OA. The Office for Open Research was established by the library to support the University of Manchester in creating a more open and accountable research environment, to advance more open and transparent research at the university and to help researchers gain easy access to open research support and resources at the university.

4. Open access policies of universities in china

The Chinese Academy of Sciences has been a pioneer in open access in China, actively participating in international cooperation to develop open access policies. In 2004, the Chinese Academy of Sciences was the first to sign the Berlin Declaration, supporting the open sharing of publicly funded research papers. In 2014, the Policy Statement of the Chinese Academy of Sciences on Implementing Open Access to Papers published in publicly funded research Projects was issued by the Chinese Academy of Sciences [8]. The Chinese Academy of Sciences requires its researchers and postgraduates to store their research results in a database of the National Natural Science Foundation of China or its affiliated organizations, which will be

available to the public within 12 months of publication. In 2017, the Literature and Information Center of the Chinese Academy of Sciences signed the OA-2020 Letter of intent, requiring that once a scientific research institution subscribes to a press journal and its members become corresponding authors and publish their papers in these journals, their papers will be automatically free and immediately realize open access, which has realized the transformation of most academic journals from subscription mode to open mode. In 2021, Tsinghua University released the 2030 Innovation Action Plan, which clearly puts forward the plan of supporting open science of Tsinghua University, and has opened the open resource service platform to the public for trial operation. At present, the Chinese Academy of Sciences and Tsinghua University are leading the way in open access universities, and relevant policies need further and more scientific consideration. It is quite difficult for most universities to change from subscription model to open model, and the development direction of open access in universities in the future needs further research.

5. Conclusion

Most practices of open access currently focus on journal papers and data, and open access for books is also evolving. Compared with universities in the United States and the United Kingdom, the formulation of open access policy in universities lags behind. At present, the establishment of open science infrastructure in China needs to be further strengthened. How to improve the utilization rate of open access is a question we all face. As an important role, the university library should pay more attention to the development of open access for a long time, in order to win the initiative in the process of realizing the transformation of open access in the future.

Acknowledgements

The authors gratefully acknowledge the data support from the University website (Duke University, University College London and The University of Manchester).

References

- [1] Wen Xin, Liu Ziheng. Open Access and its Development [J]. China Education Network, 2015.
- [2] Zhang Xiaolin, Li Lin, Liu Xiwen, et al. Open access to academic information resources: approaching the turning point of "mainstreaming" [J]. Library and Information Services, 2012, 56(9):6.
- [3] Zhang Yihua, Guo Jing, Shen Yaqi, Song Haiyan, Huang Di. Research on the Economic Cost of the Transformation of Chinese WOS Paper Open Access Publishing and Library Subscription Funds [J]. Journal of University Library, 2022, 40(2):67-75.
- [4] <https://www.coalition-s.org/plan-s-compliant-transformative-journals/>
- [5] <https://fullyopen.springernature.com/>
- [6] <https://www.rsc.org/news-events/articles/2022/oct/rsc-oa-commitment/>
- [7] <https://open.ieee.org/transformative-journals-PlanS/>
- [8] Zhang Di, Zhu Jiang. Document information system open science, Chinese Academy of Sciences summary of policy and practice [J]. Journal of library intelligence, 2022,66 (23): 137-149.