

Evaluation of the CHORUS Dashboard Service through Initiatives in Chiba University Library

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1. Introduction

Chiba University formulated the “Chiba University Open Access Policy” in March 2016 (1). This policy stipulates that the research results of faculty members published in academic journals, etc. should be published in institutional repositories. On the other hand, the catch rate of peer-reviewed academic papers was only 6%, and it was suggested that it was difficult for researchers themselves to self-archive in institutional repositories (2). For this reason, in the process of formulation and approval, it has become a challenge to realize open access (OA) without asking researchers to take tangled procedures.

This article uses the CHORUS Institutional Dashboard Service (3) to explore the third OA path, which is neither a green OA, which is a burden on authors, nor a gold OA, which has the financial burden of author processing costs (APCs).

2. What is the CHORUS dashboard service?

CHORUS is creating a future where the output flowing from funded research is easily and permanently discoverable, accessible and verifiable by anyone in the world. It is an initiative that helps funding agencies, publishers, researchers and research institutions achieve public access to research papers (4). The operation is conducted by CHOR Inc., a non-profit organization based in the United States.

CHORUS includes 60 major academic publishers (5) (6) such as Elsevier, Wiley, Springer Nature, etc., which provide “Publicly accessible versions” of articles on the publishers’ websites. Where a paper is not published OA under a Creative Commons licence, in some cases a text file of the accepted manuscript is published. The version, format of the text file and the choice of embargo are left to the publisher (7). The author’s final version published by the publisher can be viewed by anyone on the publisher’s website, but when accessed from an environment that allows viewing of subscribed electronic journals, the publisher’s version of record is automatically displayed. The publication of text files by publishers is made in response to the OA requirements of research results by funding agencies.

Eleven funding agencies affiliated with CHORUS subscribe to the “CHORUS Dashboard Service” (8) (9) . This is a service in which CHORUS monitors and provides data on all the articles published by the institution and their OA status. The Japan Science and Technology Agency (JST) is one of the funding organizations participating with CHORUS.

The data provided on the CHORUS Dashboard uses persistent identifiers including Crossref Open Funder Registry (formerly FundRef), Scopus, ORCID, Scholix, DataCite, Portico and

CLOCKSS and Crossref. (10) (11) (12). Its feature is that the information provided links existing infrastructures related to the distribution of academic information (13).

There are three types of dashboards, one for research institutions, one for publishers and one for funding agencies. The "CHORUS Institution Dashboard Service" for research institutions, which is contracted by Chiba University, provides data on the papers published by researchers from the institution. There is a display of statistical graphs including line graphs showing changes in the number of captured papers, pie charts for each item, such as the ratio of OA papers confirmed on the publishers' platforms, and a bar graph with papers per funding agency.

(Fig. 1),

In the "CHORUS Japan Dashboard" for funding agencies and contracted by JST shows JST-supported papers regardless of the researcher's institution (14) (15).

Extracting data from behind the Dashboard Data at a paper level includes the published paper DOI, author information with links to ORCID IDs, datasets and other publication sites, and there is a search function for CHORUS captured papers.

(Fig. 2),

3. Initiatives in institutional repositories

Chiba University participated in a "CHOR-JST pilot project" (16) conducted between CHOR, Inc. and JST from August 2016 to May 2017 (17). In December 2017, Chiba University subscribed to the CHORUS Institutional Dashboard Service (18). As an experimental effort, we examined the model and workflow by registering the article information on the dashboard in our institutional repository and linking to the articles on the publishers' platforms via the article DOIs.

The specific work procedure is as follows:

- (1) Where an article is confirmed as OA on publisher website by CHORUS, the data is extracted from the dashboard.
- (2) The metadata is converted into junii2 format using Excel functions.
- (3) The metadata is loaded into the institutional repository and released.
- (4) Chiba University researchers Identified in the KAKEN database have author information included (NRID).
- (5) Japanese names are added to the institutional repository.

A total of 336 articles by February 2020 (14 in November 2016, 2 in January 2017, 63 in March 2018, 88 in June 2019, 169 in January 2020) were registered in the institutional repository (19). Some feedback was made to improve of the CHORUS dashboard service.

4. Evaluation

CHORUS services are similar to Gold OA in that papers published in journals on publisher websites become OA, but are similar to Green OA in that they open the papers without the payment of APCs. While there are concerns about the increase in APC costs, and there are

limits to the expansion of self-archiving by authors, this experiment confirms that it is meaningful as a method for promoting OA at least in the short term. In addition, version management and embargo management are performed at the publishers' sites, and by analysing the CHORUS data rather than sourcing our own data reduces the management burden at the library. In addition, various ideas were suggested by Chiba University to CHORUS to make the CHORUS Dashboard easier to use for Japanese funders and research institutions. Resulting from this dialogue CHORUS added the author affiliation reports to the extracted data.

The CHORUS Institutional Dashboard Service makes it easy to grasp the research results of each institution, and improves visibility by distributing their metadata through institutional repositories. There is some room for improvement as in the following three points.

First the coverage at the trial stage was low, but now the number of publishers affiliated with CHORUS has increased and the coverage has also increased. Second, the target funding agencies have been gradually expanded to funding agencies registered in the Funder Registry. The Japan Society for the Promotion of Science (JSPS), the Japan Agency for Medical Research and Development (AMED), and the New Energy and Industrial Technology Development Organization (NEDO) were also added in January 2019 as funding institutions in Japan (20). And third, however, it should be noted that the confirmation of OA status by CHORUS is limited to funding organizations (currently 11 organizations) that are members of CHORUS. JST continues to verify the completeness, immediacy, accuracy of information, and OA conversion rate of the CHORUS dashboard (21), and in order to prevent omissions of papers from the CHORUS data, it is necessary to inform researchers that they must enter, Funder IDs, Grant Numbers, ORCID IDs.

Second, the CHORUS dashboard is not intended to provide bibliographic information itself. Therefore, if detailed bibliographic information is to be entered into an institutional repository, metadata must be supplemented. Obtaining metadata from others based on the provided DOI and ORCID identifiers is for further study (22). This point is expected to be simplified by applying the JPCOAR schema (23).

Third, at the initial stage of the trial project, "Publicly accessible versions" were obtained from the publisher as the main text file and negotiated between Chiba University and the publisher to register it in the institutional repository. The publisher's approval was not obtained. It should be noted that a new contract between Couperin and Elsevier, a French academic institution consortium, will provide a text file from the publisher to the repository (24), and we hope that the publishers' attitudes will change in the future.

5. For the future

For a research institution, the CHORUS Institution Dashboard has the advantage of being able to easily monitor the OA status of research results that have received funding. Information is also provided to the research administrator (URA) on campus, seeking cooperation in promoting OA of research results.

In addition, as a new function of the CHORUS dashboard, the DOI of the dataset related to the paper was added in August 2018, and this item can also be extracted. How we use data set information is also being considered. This project needs to be considered strategically as a method for realizing OA from the standpoint of universities and university libraries.

We would like to keep an eye on whether the OA method based on CHORUS, which is the publication of publicly accessible versions' files on publisher websites, will be a sustainable framework for researchers and universities in the long term.

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