

Table S26. Humanities and arts category

Category	Humanities and arts
General	Disciplines of logic, linguistics, anthropology and others are in this subcategory. OA proportion is generally high in this subcategory and OA was 35-47% in 2021. A total of 103,800 articles (22.2% of total) are available for OA. (Suppl. table 21, Suppl. fig. 16)
History	OA was high (51% in 2021) in philosophical history discipline but low in classic and other history disciplines (24-40%). Limited number of articles (66,306 articles or 19.7% of total) are available for OA. (Suppl. table 22)
Literature	Ten disciplines on different aspects of literature are generally low in OA. Limited numbers of articles (19,770 articles or 11.6% of total) are available for OA. (Suppl. table 23, Fig. 7)
Arts	Eight disciplines of different aspects of arts are in this subcategory. OA proportion was generally low and 108,873 articles (19.3% of total) are available for OA. (Suppl. table 24)
OA trends	Academic research papers on humanities are valuable resources although major parts of artefacts are more often published on monographs. Articles on the basic parts like logic and linguistics are published recently as OA but the general trend of OA is still low.
Library service plans	The publication on the literature, history and arts are usually on monographs and books are major resources for library services on humanities. The users favor electronic or analog versions of books, and digital transformation in these subject domains are slower. It is necessary, however, to keep old literature available online so that it can be searched by those who want to get the knowledge details. Wikipedia and other types of on-line resources are used for these subjects, and open access documents will add more value to these existing knowledge resources.

General summary of four subcategories and their open access trends and possible plans for library services.