April 2022

# The tracking of paper usage data versus citation counts for Library Philosophy and Practice

Rumiye Arslan
*University of Amasya*, rumiye.arslan@amasya.edu.tr

Keziban Orbay
*University of Amasya*, keziban.orbay@amasya.edu.tr

Metin Orbay
*University of Amasya*, metin.orbay@amasya.edu.tr

*[Library Philosophy and Practice (e-journal): 2022]*

# The tracking of paper usage data versus citation counts for *Library Philosophy and Practice*

**Rumiye Arslan[a], Keziban Orbay[b], Metin Orbay[b]***

[a] *Department of Elementary Education, Faculty of Education, University of Amasya, Amasya, Turkey*

[b] *Department of Mathematics and Science, Faculty of Education, University of Amasya, Amasya, Turkey*

## Abstract

With academic journals widely published and distributed online, the paper usage data has been a focus not only by publishers, but also by many researchers, especially librarians. The main reason for this motivation is that this data is considered as a measure of interest in published research and that possible references to the paper in the future have been used as the first predictive tool. The aim of this study is to examine whether there is a relationship between paper usage data and citation counts for *Library Philosophy and Practice* between 2005 and 2020, taking into account the number of citations that papers cited ten and over in the Scopus database have received in the Google Scholar (GS) database at the same time. As a result of the analysis, the correlations between download and citation counts from the Scopus database and the GS database were determined to be statistically significant positive ($r_S$*=0.261* and $r_P$*=0.310;* $r_S$*=0.636* and $r_P$*=0.356; p<0.01),* respectively. Similarly, there was a positive correlation between citations in the Scopus database and citations in the GS database ($r_S$*=0.581* and $r_P$*=0.812; p<0.01*). In the meanwhile, taking into consideration the papers' single-author and multi-author statuses; it was observed that single-author papers received more citations on average in the Scopus and GS databases, but the difference between groups was not statistically significant (*p>0.05*). The findings were compared with the studies in the literature and evaluations were made about what can be done for future studies.

**Keywords:** Citation; Download; Scopus; Google Scholar; Library Philosophy and Practice.

* Corresponding author: metin.orbay@amasya.edu.tr (M. Orbay)

## Introduction

In particular, academic journals play an indispensable role among the official communication languages of science in the construction, dissemination and use of information (Abramo, 2018; Hicks, 2012; Orbay, Karamustafaoğlu, & Miranda, 2021; Örnek, Miranda, & Orbay, 2021; Riviera, 2013). Therefore, it is becoming more and more important to follow the publications produced, to determine the characteristics of academic journals and publications and to analyze them based on various criteria, to understand the present and to make inferences between past and future. Advances in information technologies have made it possible to access information easily and cheaply, and have increased the amount of information available by doubling every day (Fire & Guestrin, 2019). Consequently, it is very important to extract the information obtained, to ensure that it does not remain as a pile of data that does not benefit with resource security and actuality. One of the methods that can be used for this purpose is Bibliometric analysis, which was first defined by Pritchard (1969).

Nowadays, papers published in the journals in the Scopus and Web of Science (WoS) database are predominantly accepted in the academic community, and as a result, these databases are often used in Bibliometric analyses (Donthu et al., 2021; Li, Rollins, & Yan, 2018; Pranckutė, 2021). On the other hand, the Google Scholar (GS) database, which does not require any subscriptions and is open to Internet users, remains an alternative for researchers despite some disadvantages (Harzing, 2007). Bibliometric indicators developed in these databases to evaluate studies are not only quantitative but also qualitative (Guerrero-Bote & Moya-Anegón, 2014). The basis of these qualitative scales is based on the number of citations received by the papers. The number of citations to scientific publications is one of the most important criteria used to measure the intellectual, scientific, economic and social impact of a publication. Therefore, the fact that a study receives a large number of citations; especially as well as the researchers of these papers, the journal in which the paper was published have become an important prestige in the academic community for the institute-university where the paper was written and even for the countries. Depending on the number of citations, many new bibliometric indicators have been developed such as the journal impact factor, h-index and eigenfactor (Cai et al., 2019; Karamustafaoğlu & Orbay, 2021; Larivière & Sugimoto, 2019; Orbay, Karamustafaoglu, & Öner, 2007).

Developed by librarians and information scientists for many years to measure the quality of journals listed in citation indexes, to compare and select journals, these indicators are widely used today as a means of comparing research evaluation, recruitment, academic upgrades, distribution of research funds, institutes, universities and even countries, despite all the counter-stances and warnings (DORA, 2012; Hicks et al., 2015). Therefore, directly or indirectly affecting the citation status of papers; factors such as the publication language, number of researchers, level of international cooperation, whether the paper is open access, paper title and paper length, number of references used in the paper, actuality of the reference list, which database of the journal in which the paper is published, whether the paper is supported by funds are all significant research topics (Orbay, Karamustafaoğlu, & Miranda, 2021; Örnek, Miranda, & Orbay, 2021; Öner & Orbay, 2022; Sezgin, Orbay, & Orbay, 2022; Tonta & Akbulut, 2021). In parallel with the developments in information and communication technologies, with the widespread use of the Internet at all levels, most academic journals have started to be published and distributed online. On the other hand, the proliferation of open-access journals and the promotion by policymakers have added significant momentum to the interest in online field publishing (Brainard, 2021; Else, 2018; Piwowar et al., 2018; Piwowar, Priem, & Orr, 2019).

Recently, the number of views or downloads of papers has been concentrated not only on publishers, but also on their researchers, especially librarians (Ding et al., 2021; Hu et al., 2021). The main reason for this is that this data is considered as a measure of interest in published research and that possible references to the paper in the future have been used as the first predictive tool (Hu et al., 2021). Many researchers proposed alternative approaches to demonstrate the scientific impact of papers using download numbers with the motivation to predict future citations of papers, and investigated the problem on the basis of calculating the correlation coefficient between paper usage data and citation counts for different branches (Appell, 2007; Guerrero-Bote & Moya-Anegón, 2014; Jamali & Nikzad, 2011; Kurtz & Henneken, 2017; Moed, 2005; Moed & Halevi, 2016; Schloegl & Gorraiz, 2010). As an example, Schloegl and Gorraiz (2010) found the correlation between download and citation numbers of papers published in the journal Gynecologic Oncology at a level of *0.410*. Moed (2005), on the other hand, showed that the correlation coefficient between

download and citation counts ranged from *0.11* to *0.35* depending on time. Xue-li et al. (2011) found that this correlation coefficient was *0.491* for papers published in medical journals. Moed and Halevi (2016) emphasized that the correlation coefficient varied on the basis of the categories in which the journals were indexed, while this rate was *0.8* in chemical engineering, biochemistry and molecular biology, while in humanities this rate was *0.3.* A broad critique of the correlation between paper usage data and citation counts can be seen in a study conducted by Hu et al. (2021).

Many bibliometric studies were carried out on *Library Philosophy and Practice (LPP-ISSN 1522-0222)*, one of the leading journals in the field of librarianship (LPP, 2022). However, bibliometric studies on LPP generally answer classic bibliometric questions such as the change in the number of papers published in the journal depending on years, the common characteristics of the most cited papers, the most prolific authors, countries, institutes, frequently studied subjects, the change of the status of multi-authorship over time (Haq, Ahmed, & Abbasi, 2021; Haque et al., 2019; Hussain & Yar, 2021; Idrees & Anwar, 2013; Jayaraman, Krishnaswamy, & Moorthi, 2012; Kannan & Thanuskodi, 2019; Saberi, Barkhan, & Hamzehei, 2019; Saini & Verma, 2018; Thanuskodi, 2010; Veram, Yadav, & Singh, 2018; Verma, Sonkar, & Gupta, 2015). On the other hand, the relationship between the number of paper downloads given on the website of the journal and the citations received by the papers, to the best of our knowledge, has not yet been the subject of research.

## About the journal LPP

Since 1998, LPP journal has been publishing as an open-access, peer-reviewed journal and does not charge researchers under any names. LPP describes itself as "*publishes articles exploring the connection between library practice and the philosophy and theory behind it. These include explorations of current, past, and emerging theories of librarianship and library practice, as well as reports of successful, innovative, or experimental library procedures, methods, or projects in all areas of librarianship, set in the context of applied research*" (LPP, 2022). The LPP is indexed in the internationally respected Library and Information Science Abstracts (LISTA), Directory of Open Access Journals (DOAJ) and Scopus (LPP, 2022).

## Purpose of the study

The aim of this study is to examine whether there is a correlation between the number of downloads and citation numbers of papers published in LLP has between 2005 and 2020, taking into account the number of citations that papers cited ten and over in the Scopus database have received in the GS database at the same time.

## Methodology

The sample of the study consists of 246 papers published in the LPP between 2005 and 2020, cited ten and over in the Scopus database. The data collection process conducted between 2/12/2022-2/15/2022. The masthead information and download numbers of the papers were taken from the LPP website. Publish or Perish software was used to determine citations from the Scopus database (Harzing, 2007). At the same time, the citation numbers of 246 papers from the GS database were taken directly from this database. To determine which of the parametric or nonparametric tests to use in statistical analyses, it was evaluated whether the variables showed normal distribution for the number of citations and download numbers with the help of the Kolmogorov-Smirnov Test and descriptive statistical data (George & Mallery, 2010). Significance level was accepted as $p<0.05$ for statistical tests, and IBM SPSS 20 software (Armonk, NY, USA) was used for the analysis of data.

## Findings and Discussion

There were 253 publications cited ten and over published in the LPP and indexed in the Scopus database between 1998 and 2020, and the change of these publications depending on the years was given in Table 1 with the publication types. Of these publications, 90.51% were published as article, 8.69% of them as review, and 0.78% of them as short surveys. These three types of documents will be called “paper” in the following sections. The specified time interval is divided into four phases. Phase I has a total of seven papers. However, Phase I was excluded from the evaluation because it was not possible to access the download numbers of six papers other than one of these papers (in 2001) from the journal website. Therefore, the sample of the research consists of the remaining 246 papers.

**Table 1.** Year-wise distribution of papers and the degree of collaboration for papers cited ten and over.

| | Year | PC | PT and PC cited ten and over | | | C |
|---|---|---|---|---|---|---|
| | | | Article | Review | Short Survey | |
| Phase I | 1998 | 3 | 0 | 0 | 0 | - |
| | 1999 | 6 | 1 | 0 | 0 | - |
| | 2000 | 7 | 0 | 0 | 0 | - |
| | 2001 | 6 | 1 | 0 | 0 | - |
| | 2002 | 10 | 3 | 0 | 0 | 0.33 |
| | 2003 | 8 | 0 | 0 | 0 | - |
| | 2004 | 11 | 1 | 1 | 0 | - |
| Phase II | 2005 | 18 | 3 | 4 | 0 | 0.14 |
| | 2006 | 35 | 7 | 2 | 0 | 0.44 |
| | 2007 | 54 | 3 | 9 | 0 | 0.50 |
| | 2008 | 66 | 12 | 3 | 2 | 0.65 |
| | 2009 | 99 | 19 | 0 | 0 | 0.58 |
| Phase III | 2010 | 152 | 25 | 0 | 0 | 0.40 |
| | 2011 | 195 | 40 | 0 | 0 | 0.48 |
| | 2012 | 195 | 23 | 2 | 0 | 0.56 |
| | 2013 | 176 | 20 | 0 | 0 | 0.85 |
| | 2014 | 159 | 21 | 1 | 0 | 0.59 |
| Phase IV | 2015 | 130 | 11 | 0 | 0 | 0.45 |
| | 2016 | 119 | 7 | 0 | 0 | 0.86 |
| | 2017 | 140 | 5 | 0 | 0 | 0.80 |
| | 2018 | 274 | 10 | 0 | 0 | 0.60 |
| | 2019 | 997 | 10 | 0 | 0 | 0.90 |
| | 2020 | 825 | 7 | 0 | 0 | 1 |
| **Total** | | **3685** | **229** | **22** | **2** | |

*PC=Paper Count; PT=Paper Type; C= Degree of Collaboration for papers cited ten and over*

On the other hand, publication types of all papers published in each phase are given in Table 2. The percentage of review papers in Phase II (25.74%) is quite high, especially when compared to the other phases. Here, it is useful to remember that, as is known from the literature (Miranda & Garcia-Carpintero, 2018), review papers receive more citations than articles.

**Table 2.** Document-wise distribution of publications for each phase.

| | Total Paper Count | Article % | Review % | Other % |
|---|---|---|---|---|
| **Phase I** | 51 | 78.43 | 19.61 | 1.96 |
| **Phase II** | 272 | 70.59 | 25.74 | 3.68 |
| **Phase III** | 877 | 98.86 | 1.03 | 0.11 |
| **Phase IV** | 2485 | 99.76 | 0.04 | 0.20 |

In Table 1, the degree of collaboration for papers (*C*) cited ten and over were calculated using the *C=NM/(NS+NM)* equality defined by Subramanyam (1983). In this equation, *NM* represents the number of multi-author papers, *NS* represents the number of single-author papers. The change and change trend of the degree of collaboration depending on the time is given in Figure 1. As seen from Figure 1, the degree of collaboration tends to increase.

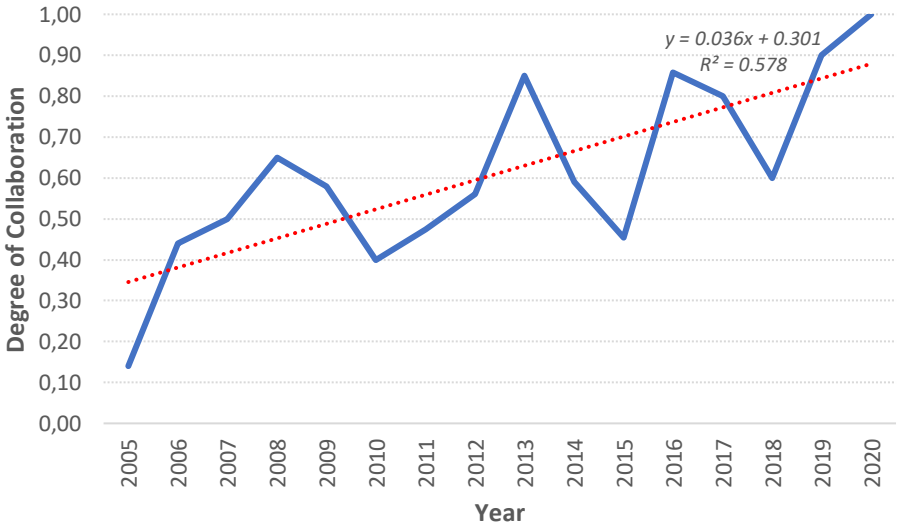


**Figure 1.** Year-wise trend of degree of collaboration for papers cited ten and over.

In Figure 2, the average and median values of the author numbers of 246 papers are given depending on the years. As clearly from Figure 2, the average number of authors of papers cited ten and over increases over time. On the other hand, single-author papers come to the fore, especially in Phase II and partly Phase III, while Phase IV now has both the average number of authors and median values of papers two and above. One of the main findings of the study conducted by Haq et al. (2021) was the emphasis that 50% of the 100 most cited papers were single-author papers. It is seen that these studies are particularly concentrated in Phase II and partly in Phase III.

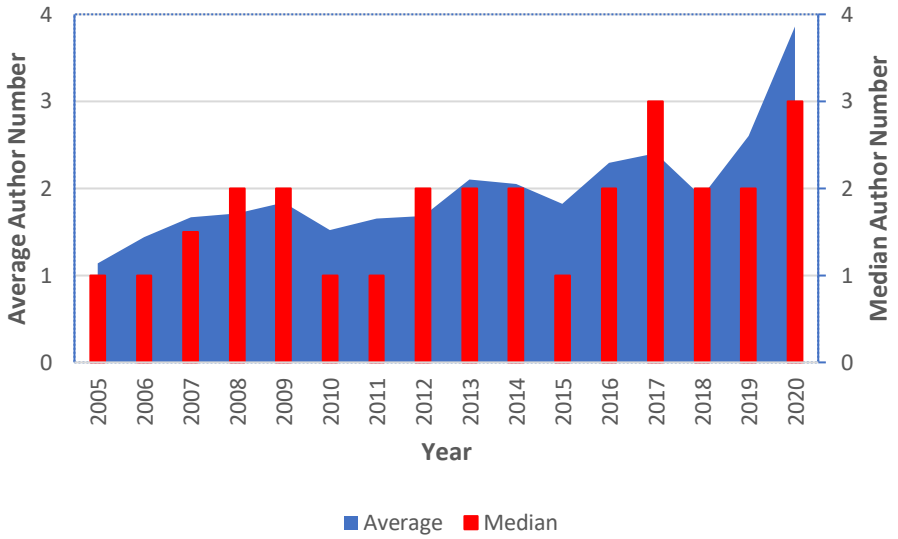


**Figure 2.** Year-wise distribution of average and median author numbers for papers cited ten and over.

The 246 papers that sampled the study were summarized in Table 3 of the citation numbers they received from the Scopus and GS databases and the descriptive statistical data for the total number of downloads.

**Table 3.** Descriptive statistics for some bibliometric indicators.

| The number of | M | Me | Min | Max | SD | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|
| **Downloads** | 8976.24 | 2872 | 99 | 328502 | 28518.16 | 8.040 | 76.673 |
| **Citations in Scopus** | 16.41 | 13 | 10 | 126 | 11.696 | 5.804 | 44.759 |
| **Citations in GS** | 60.93 | 44 | 10 | 1073 | 81.980 | 8.705 | 98.971 |

*Note: M=Mean, Me= Median, Min=Minimum, Max=Maximum, SD=Standard Deviation.*

As understood from Table 3, it is seen that the number of downloads of papers and the distribution of citations from the Scopus and GS databases are extremely right-skewed and the data does not show normal distribution. The Kolmogorov-Smirnov Test results for these three data sets are also given in Table 4. When Table 3 and Table 4 are evaluated together, it is appropriate to use nonparametric tests in future correlation research or intergroup comparisons (George & Mallery, 2010).

**Table 4.** Test of normality for some bibliometric indicators.

| | **Kolmogorov-Smirnov** | | |
|---|---|---|---|
| | *Statistic* | *df* | *Sig.* |
| **The number of downloads** | *0.378* | | |
| **The number of citations in Scopus** | *0.292* | *246* | *0.000* |
| **The number of citations in GS** | *0.267* | | |

*df: Degree of freedom.*

Spearman correlation coefficient ($r_S$) was calculated for the correlation between the number of downloads of the papers and the citation numbers, and the correlation matrix for these three bibliometric data sets is summarized in Table 4. Since these relationships are given by Pearson correlation coefficient ($r_P$) in some similar studies in the literature, Pearson correlation coefficients are also given in parenthesis in Table 5 to be united in comparisons.

**Table 5.** Spearman (Pearson) correlation matrix among some bibliometric indicators.

| | **A** | **B** | **C** |
|---|---|---|---|
| **A.** Total downloads | *1* | *0.261*(0.310*)* | *0.636*(0.356*)* |
| **B.** The number of citations in Scopus | | *1* | *0.581*(0.812*)* |
| **C.** The number of citations in GS | | | *1* |

**Significantly correlated when the significance level is set at 0.01 (two-tailed).*

As a result, the correlations between download and citation counts from the Scopus and the GS database were determined to be statistically significant positive ($r_S$*=0.261* and $r_P$*=0.310;* $r_S$*=0.636* and $r_P$*=0.356; p<0.01),* respectively. The correlation between download and citation counts for the GS database is higher than the correlation for the Scopus database. The main reason for this is that citations in the Scopus database only take into account references from journals indexed in the Scopus database, while in the GS database, a larger area is included in the citation pool. Similarly, there was a correlation between citations in the Scopus database and citations in the GS database ($r_S$*=0.581* and $r_P$*=0.812; p<0.01*). On the other hand, it should be noted that the Pearson correlation coefficient between two databases is very strong.

The correlation between the total download numbers of the papers and the citations they receive is in line with the results of studies conducted in different disciplines. Martin-Martin et al. (2018) noted that the scope of the GS database is very wide, and found that it includes the WoS (95%) and Scopus (92%) databases, and that nearly half of the citations are made from sources outside the journal. They emphasized that the majority of these citations are not in English. On the other hand, taking into consideration the differences in disciplines between citations in the Scopus and GS databases, they found a very strong correlation between *0.78* and *0.99*. Moed and Halevi (2016) showed that the ratio of GS citations to references received by Scopus ranged from 1 to 4 times when the subject areas were taken into account.

Researchers emphasized that this ratio works in favor of open access journals for journals of the same discipline. For the 246 papers that sampled this study, the total number of GS citations was 14988, while the sum of Scopus citations was 4037, and this rate was 3.7. On the other hand, in the same study (Moed & Halevi, 2016), researchers showed that the Pearson correlation coefficient between Scopus and GS databases and data was *0.8-0.9* when the fields were taken into account. In this context, this rate complies with the *0.812* value found in this study.

The 246 papers constituting the research sample are divided into two groups as single-author and multi-author papers according to the number of authors, and the descriptive statistical results for the citation numbers they receive from both databases are given in Table 6.

**Table 6.** Descriptive statistics for citations depending on the number of authors.

| | **Scopus (GS)** | |
|---|---|---|
| | **Single author** | **Multi-author** |
| **N** | 103 | 143 |
| **M**ean | 17.20 (66.10) | 15.84 (57.20) |
| **Me**dian | 13 (50) | 13 (42) |
| **Min**imum | 10 (13) | 10 (10) |
| **Max**imum | 126 (525) | 102 (1073) |
| **S**tandard **D**eviation | 14.163 (61.781) | 9.548 (93.917) |

As understood from Table 6, it is seen that the average citation numbers of single-author papers in both databases are higher than multi-author papers. The Mann Whitney U Test was performed to see if there was a significant difference between the groups for both databases. There is no significant difference between groups for the Scopus and GS databases (*p>0.05*). On the other hand, Haq et al. (2021) emphasizes that single-author papers in the Scopus database and multi-author papers in GS database received more citations in their bibliometric analysis of the 100 most cited papers published in the LPP between 2001 and 2018. However, multi-authorship is particularly notable here, especially in Phase III and predominantly Phase IV periods.

As is known, unlike in the fields of science, engineering and medicine, it takes longer in social sciences to get the first citations of papers and reach the peak of reference (Archambault & Larivière, 2010). The number of downloads of papers might be reached their maximum value in 1-2 years in social sciences, while after 7-10 years, they can reach the maximum citation values per year (Archambault & Larivière, 2010). Therefore, it should be noted that the studies within Phase II have reached saturation

point, on the other hand, especially papers that are ranked in the Phase IV and Phase III group or have not yet been seen in the ranking have the potential to receive a high degree of citation.

In addition to the topics discussed above, it is appropriate focus on the word counts in the titles of these papers. As is well-known, most researchers decide whether it is related to them by looking at the title of a paper. Therefore, the first impression that the title creates in the reader plays a major role in whether the paper is read in detail or not. Therefore, the title is extremely important since it is the section that provides the most basic information about the content of a paper. Letchford, Moat and Preis (2015), in their study examining the most cited papers published between 2007 and 2013, found that short-titled papers received a higher number of citations. The reasons for this relationship were listed as follows: journals with high impact factors limit the number of title characters; more recent research or research on emerging subjects have longer titles due to the need to be explained and they are published in less prestigious journals; short titles are easier to read, easier to understand, so attract more readers (Letchford, Moat, & Preis, 2015). However, the concept of “short” or “long” title is relative definitions, and based on this problem, Elgendi (2019) used the machine learning approach to investigate the characteristics of highly cited papers and emphasized that a good title consists of 10±3 words. The descriptive statistical data of the 246 papers that constitute the sample of this research are summarized in Table 7, and the frequency histogram for the number of words in the title is given in Figure 3.

**Table 7.** Descriptive statistics of the number of words in the title.

| | N | Mean | Median | Min | Max | SD | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|---|
| The number of words in the title | 246 | 13.43 | 13 | 3 | 26 | 4.367 | 0.229 | -0.327 |

The words in the titles of the papers examined in this study are fully matched with the field of study of the journal, and although the number of words used in the title shows a normal distribution, it is seen that they are above the recommended range for the ideal paper titles recommended by Elgendi (2018).

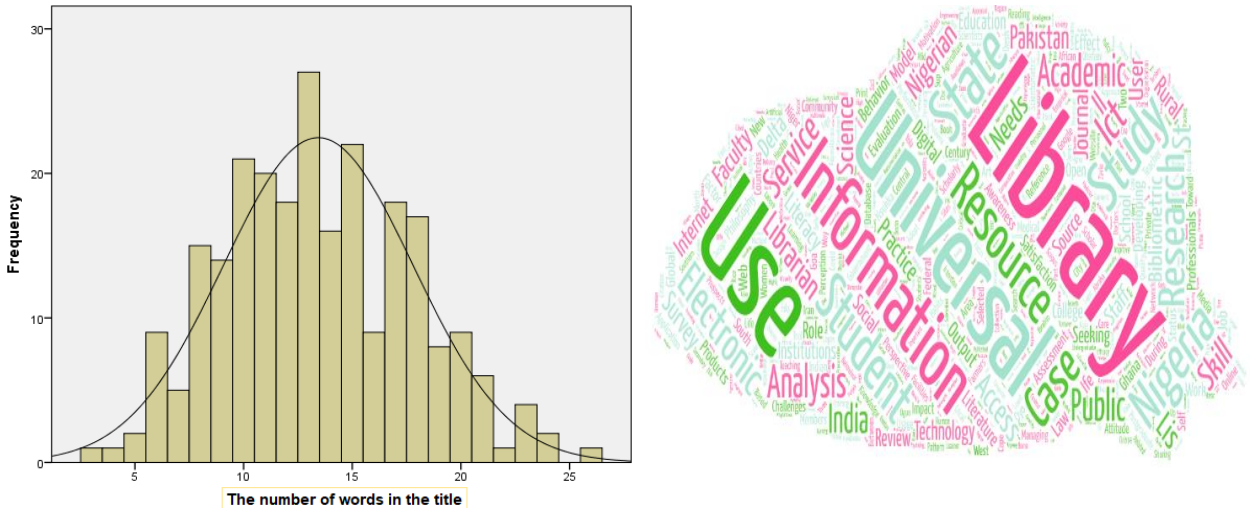


**Figure 3. a)** The frequency histogram for the number of words in the title

**b)** Word cloud for words in the title.

## Conclusion

As can be seen from this study data, there is a positive correlation between download and citation counts. In summary, if the number of downloads of a paper increases in its natural structure free of manipulative effects, it is possible to interpret this paper as the first indication that it will receive much citation in the future. At this point, authors and librarians, especially journal publishers, have important duties in bringing the papers together with the relevant stakeholders in a timely manner. Especially recently on social media networks (Researchgate, Twitter, LinkedIn, Facebook...), it should be noted that there are studies that show that the sharing of papers contributes significantly to the readability and therefore citation of the papers (Shrivastava & Mahajan, 2022; Sudah et al., 2022).

As a result, it is considered that the findings of this study will be useful to researchers, especially reviewers and journal editors who evaluate papers, as well as librarians in the process of developing a collection based on journal selection and need.

## Limitations

Despite several notable contributions, this study had a few limitations. First, Bibliometric indicators based on citation number are time-dependent indicators and can change over time. Second, only the Scopus and GS databases was used in the citation search and self-citations were not checked in the study. Finally, the small number of papers constituting the sample is another important limitation. All these limitations reduce the generalizability of the results obtained in the study.

## Conflict of Interest

The authors declare that this study was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## References

Abramo, G. (2018). Revisiting the scientometrics conceptualization of impact and its measurement, *Journal of Informetrics*, *12(3),* 590-597.

Appell, H. J. (2007). Is the future of scientific journals electronic? Some considerations about downloads and citations. *International Journal of Sports Medicine*, *28(11)*, 899-900.

Archambault, É., & Larivière, V. (2010). The limits of bibliometrics for the analysis of the social sciences and humanities literature. *World Social Science Report*, 251-254.

Brainard, J. (2021) Open access takes flight. *Science*, *371(6524),* 16-20.

Cai, L., Tian, J., Liu, J., Bai, X., Lee, I., Kong, X., & Xia, F. (2019). Scholarly impact assessment: a survey of citation weighting solutions. *Scientometrics, 118(2)*, 453-478.

Ding, Y., Dong, X., Bu, Y., Zhang, B., Lin, K., & Hu, B. (2021). Revisiting the relationship between downloads and citations: a perspective from papers with different citation patterns in the case of the Lancet. *Scientometrics*, *126(9),* 7609-7621.

Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W.M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research, 133*, 285-296.

DORA-San Francisco Declaration on Research Assessment (2012). https://sfdora.org/ Accessed January 15, 2022.

Elgendi, M. (2019). Characteristics of a highly cited article: A machine learning perspective. *IEEE Access*, *7*, 87977-87986.

Else, H. (2018). Radical open-access plan could spell end to journal subscriptions. Nature, *561(7721)*, 17-18.

Fire, M. & Guestrin, C. (2019). Over-optimization of academic publishing metrics: observing Goodhart's Law in action. *GigaScience*, *8(6),* giz053.

George, D., & Mallery, M. (2010). *SPSS for Windows Step by Step: A Simple Guide and Reference*, 17.0 update (10a ed.) Boston: Pearson.

Guerrero-Bote, V.P., & Moya-Anegón, F. (2014). Relationship between downloads and citations at journal and paper levels, and the influence of language. *Scientometrics*, *101(2),* 1043-1065.

Haq, I.U., Ahmed, Z., & Abbasi, Y. (2021). The 100 Most-cited Articles in Library Philosophy and Practice (e-journal): A Bibliometric Analysis. *Library Philosophy and Practice*, 1-19.

Haque, M.A., Islam, M.A, Hasan, M.N., Akanda, A.K.M.E.A., & Eamin, A. (2019). Bibliometric analysis of the e-Journal of library philosophy and practice during the period of 2014-2018. *Library Philosophy and Practice*, *3028*, 1-21.

Harzing, A.W. (2007). Publish or Perish, available from https://harzing.com/resources/publish-or-perish, Accessed January 15, 2022.

Hicks, D. (2012). One size doesn't fit all: On the co-evolution of national evaluation systems and social science publishing. *Confero: Essays on Education, Philosophy and Politics, 1(1)*, 67- 90.

Hicks, D., Wouters, P., Waltman, L., De Rijcke, S., & Rafols, I. (2015). Bibliometrics: the Leiden Manifesto for research metrics. *Nature*, *520* (7548), 429-431.

Hu, B., Ding, Y., Dong, X., Bu, Y., & Ding, Y. (2021). On the relationship between download and citation counts: An introduction of Granger-causality inference. *Journal of Informetrics*, *15(2),* 101125.

Hussain, M., & Yar, M.S. (2021). Research Productivity of Pakistani Authors in the Online Journal of Library Philosophy and Practice: A Bibliometric Appraisal from 2008-2020. *Library Philosophy and Practice*, 1-15.

Idrees, H., & Anwar, M. (2013). Library and information science research: a bibliometric study of Library Philosophy and Practice, 2006 to 2012. *Pakistan Library & Information Science Journal, 44(4),* 35-46.

Jamali, H.R., & Nikzad, M. (2011). Article title type and its relation with the number of downloads and citations. *Scientometrics*, *88(2),* 653-661.

Jayaraman, S., Krishnaswamy, N., & Moorthi, S.N. (2012). Library philosophy and practice (e-journal): Bibliometric study from 2005–2010. *Library Progress (International)*, *32*(1), 1-10.

Kannan, P., & Thanuskodi, S. (2019). Bibliometric analysis of library philosophy and practice: A study based on Scopus Database. *Library Philosophy and Practice*, 1-13.

Karamustafaoğlu, O., & Orbay, M. (2021). Should quality be measured in quantity? *Academia Letters, 975,* 1-6.

Kurtz, M. J., & Henneken, E. A. (2017). Measuring metrics-a 40-year longitudinal cross-validation of citations, downloads, and peer review in astrophysics. *Journal of the Association for Information Science and Technology*, *68(3),* 695-708.

Larivière V., Sugimoto C.R. (2019) The Journal Impact Factor: A Brief History, Critique, and Discussion of Adverse Effects. In: Glänzel W., Moed H.F., Schmoch U., Thelwall M. (eds) Springer Handbook of Science and Technology Indicators. Springer Handbooks. Springer, Cham.

Letchford, A., Moat, H.S. & Preis T. (2015). The advantage of short paper titles. *Royal Society Open Science*, *2(150266)*, 1-6.

Li, K., Rollins, J., & Yan, E. (2018). Web of Science use in published research and review papers 1997-2017: A selective, dynamic, cross-domain, content-based analysis. *Scientometrics, 115 (1),* 1-20.

LPP-Library Philosophy and Practice (e-journal), *https://digitalcommons.unl.edu/libphilprac/ (*Accessed January 15, 2022.)

Martín-Martín A, Orduna-Malea E, Thelwall M, López-Cózar ED. (2018) Google Scholar, Web of Science, and Scopus: A systematic comparison of citations in 252 subject categories. *Journal of Informetrics, 12(4),* 1160-1177.

Miranda, R., & Garcia-Carpintero, E. (2018). Overcitation and overrepresentation of review papers in the most cited papers, *Journal of Informetrics, 12(4)*, 1015-1030.

Moed, H.F. (2005). Statistical relationships between downloads and citations at the level of individual documents within a single journal. *Journal of the American Society for Information Science and Technology*, *56(10),* 1088-1097.

Moed, H.F., & Halevi, G. (2016). On full text download and citation distributions in scientific-scholarly journals. *Journal of the Association for Information Science and Technology*, *67(2),* 412-431.

Öner, B.S., & Orbay, M. (2022). Assessing the publication output in the field of forensic science and legal medicine using Web of Science database from 2011 to 2020, *Forensic Sciences Research,* 1-15. (In press) https://doi.org/10.1080/20961790.2021.2002525

Orbay, M., Karamustafaoğlu, O., & Miranda, R. (2021). Analysis of the journal impact factor and related bibliometric indicators in education and educational research category. *Education for Information*, *37(3)*, 315-336.

Orbay, M., Karamustafaoglu, O., & Öner, F. (2007). What does Hirsch index evolution explain us? A case study: Turkish Journal of Chemistry, *Biblios, 27(8),* 1-5.

Örnek, F., Miranda, R., & Orbay, M. (2021). Investigating the Journal Impact Factor of Special Education Journals Indexed in the Social Sciences Science Edition from Web of Science, *Journal of the American Academy of Special Education Professionals,* Winter, 110-132.

Piwowar, H., Priem, J., & Orr, R. (2019). The Future of OA: A large-scale analysis projecting Open Access publication and readership. *Biorxiv*, 795310. https://doi.org/10.1101/795310

Piwowar, H., Priem, J., Larivière, V., Alperin, J.P., Matthias, L., Norlander, B., Farley, A., West, J., & Haustein, S. (2018). The state of OA: a large-scale analysis of the prevalence and impact of Open Access articles. *PeerJ, 6,* e4375. https://doi.org/10.7717/peerj.4375

Pranckutė, R. (2021). Web of Science and Scopus: The titans of bibliographic information in today's academic world. *Publications*, *9(1)*, 12.

Pritchard, A. (1969). Statistical bibliography or bibliometrics. *Journal of Documentation, 25(4),* 348-349.

Riviera, E. (2013). Scientific communities as autopoietic systems: The reproductive function of citations. *Journal of the American Society for Information Science and Technology, 64(7),* 1442-1453.

Saberi, M.K., Barkhan, S., & Hamzehei, R. (2019). A bibliometric study and visualization of Library Philosophy and Practice during 1998-2018. *Library Philosophy and Practice,* 1-18.

Saini, O.P., & Verma, A.K. (2018). Contribution by the Indian and Pakistani authors to Library Philosophy and Practice: A bibliometric analysis 2008-2017. *Library Philosophy and Practice*, *1*-22.

Schloegl, C., & Gorraiz, J. (2010). Comparison of citation and usage indicators: the case of oncology journals. *Scientometrics*, *82(3),* 567-580.

Sezgin, A., Orbay, K., & Orbay, M. (2022). On the widespread impact of the most prolific countries in special education research. *Shanlax International Journal of Education*, *10 (2)*, 59-66. https://doi.org/10.34293/education.v10i2.4334

Shrivastava, R., & Mahajan, P. (2022). Altmetrics and their relationship with citation counts: a case of journal articles in physics. *Global Knowledge, Memory and Communication*, (in press). https://doi.org/10.1108/GKMC-07-2021-0122

Subramanyam, K. (1983). Bibliometric studies of research collaboration: A review. *Journal of Information Science*, *6(1),* 33-38.

Sudah, S., Faccone, R.D., Nasra, M.H., Constantinescu, D., Menendez, M.E., & Nicholson, A. (2022). Twitter Mentions Influence Academic Citation Count of Shoulder and Elbow Surgery Publications. *Cureus*, *14(1),* 1-8.

Thanuskodi, S. (2010). Bibliometric analysis of the journal Library Philosophy and Practice from 2005-2009. *Library Philosophy and Practice*, 1-13.

Tonta, Y., & Akbulut, M. (2021). Factors increasing the citation impact of papers from Turkey published in international journals. *Turkish Librarianship, 35(3),* 388-409.

Veram, M.K., Yadav, S.K., & Singh, S.N. (2018). Research publication pattern of Library Philosophy and Practice (e-journal): A bibliometric analysis during 2008-2017. *Library Philosophy and Practice*, 1-15.

Verma, A., Sonkar, S.K., & Gupta, V. (2015). A bibliometric study of the library philosophy and practice (e-journal) for the period 2005-2014. *Library Philosophy and Practice*, 1-17.

Xue-li, L., Hong-ling, F., Mei-ying, W. (2011). Correlation between download and citation and download-citation deviation phenomenon for some papers in Chinese medical journals. *Serials Review*, *37(3),* 157-161.