

## Research Trends in Arts and Science Education From 2009-2020: Content Analysis of Publications in Lashio University Research Journals

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### Abstract

Content analysis is a research tool used to determine the presence of certain words or concepts within texts or sets of texts. This study analyzes on the content of publications in Lashio University Research Journals. It covers volumes 1 to 11 published during the period from 2009 to 2020. There are 189 research papers contributed by faculty members of Lashio University. This study aims to offer an overview of research trends in arts and science education and characterize their most important bibliographic features such as year-wise distribution of articles, subject-wise distribution of articles, authorship pattern, etc. The method of the study is bibliometric analysis. It is a quantitative method. The data is collected from eleven volumes (12 issues) of the journal covering a particular period. The collected data is analyzed and revealed by percentage in tables and figures. The findings also indicate the publication pattern as well as the nature of the research activities carried out. It will be useful to researchers who want to know about research activities in their specific disciplines.

**Keywords:** Bibliometric Analysis, Content Analysis, Research Contributions, Research

### Introduction

Information is one of the most important resources for a nation and forms the basic for the economy. Research plays a critical role in promoting the prosperity of a nation and the well-being of its citizens. Universities, through research, make important contributions to the growth and development of industries and government businesses, thereby promoting national and global development.<sup>1</sup> Universities play a vital role in the application of new knowledge. Research contributions are conventionally categorized into four key areas such as education, research, conservation and extension. The success or failure of any university is statistically measured by the contributions of the above mention areas.<sup>2</sup>

Research publications are good indicators for determining the extent and quality of research in a given institute or territory. Therefore, the quality of research output is totally dependent on the information used and produced as a result of research. Scientific output in the form of publications can be measured by using bibliometric / scientometric techniques such as counting the number of publications based on author, institution, country, year, type, subject and citation etc.<sup>3</sup>

The term bibliometrics was derived from two Greek words Biblio (book) and Merton (to measure). Bibliometrics is a kind of research approach used in the field of library and

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<sup>1</sup> Olatokunbo Christopher Okiki, "Research Productivity of Teaching Faculty Members in Nigerian Federal Universities: An Investigate Study," *Chinese Librarianship: an International Electronic Journal*, 36 (2013): 99-117, accessed June 16, 2021, <http://www.iclc.us/cliej/cl36okiki.pdf>.

<sup>2</sup> Natarajan Radhakrishnan, and Chandran Velmurugan, "Scholarly Publications by the Faculty members of Periyar University, Salem, India: A Scientometric approach," *Library Philosophy and Practice (e-journal)* (June 2015): 2, accessed July 3, 2021, <http://digitalcommons.unl.edu/libphilprac/1324>.

<sup>3</sup> B. Sivakumar, and P. Senthilkumarn," Analysis of the Publications of the KSR College of Engineering: A Bibliometric Study," *Journal of Advancements in Library Science* 4, no.3 (2017): 1, accessed July 16, 2021, <https://www.researchgate.net/publication>.

information science (LIS) to measure and analyze the productivity of literature in a specific field or journal.<sup>4</sup>

The terms “bibliometrics” and “scientometrics” were almost simultaneously introduced by Pritchard and by Nalimov and Mulchenko in 1969. While Pritchard explained the term “bibliometrics” as “the application of mathematical and statistical methods to books and other media of communication”, Nalimov and Mulchenko defined “scientometrics” as “the application of those quantitative methods which deal with the analysis of science viewed as an information process”.

Bibliometrics can be defined in simple words as the quantitative, or numerical or statistical analysis of recorded communication sources as printed or non-printed. The analysis can be done by observation, measurement, grouping or classifying. Furthermore this analysis deals with implicit and explicit characteristics and behavior of documents.<sup>5</sup>

Bibliometric research has developed a body of theoretical knowledge and a group of techniques and applications based on the distribution of bibliometric data elements. The wider application of bibliometric techniques is leading to the development of new and more perused techniques. Information scientists continue to make use of bibliometric techniques for more economical and efficient management of their materials and services.<sup>6</sup>

Bibliometrics is a research method used in library and information studies. It is a quantitative study of various aspects of data by interpretation based on tables and figures. It has two units; content analysis and citation analysis. The application of the bibliometrics method is very popular and adequate in natural science to evaluate the quantitative productivity of an individual, a subject, an institution or a country.<sup>7</sup>

Content analysis is a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use. As a technique, content analysis involves specialized procedures. It is learnable and divorceable from the personal authority of the researcher. As a research technique, content analysis provides new insights, increases a researcher's understanding of particular phenomena, or informs practical actions.<sup>8</sup>

The Lashio University Research Journal was published as its first issue, volume 1, No. 1 in 2009. The second issue of the Lashio University Research Journal, Volume 2, No. 1 was published in 2010 but the journal was not published in 2011. After 2011, it will be issued yearly. Up to 2020, 12 issues have been published. This study attempts to explore the various facets of the Lashio University Research Journal.

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<sup>4</sup> Ishtiaq Ahmed, and Midrar Ulah, “Alo-Year Bibliometric Study of Pakistan Journal of Pharmaceutical Science,” *Library Philosophy and Practice (e-Journal)* (2018): 1-3, accessed July 18, 2021, <http://digitalcommons.uni.edu/libphilprac/2128>.

<sup>5</sup> Bibhu Prasad Panda, *A Model Bibliometric Study* (New Delhi: SSDN Publishers & Distributors, 2012), 31-32.

<sup>6</sup> Francis Narin, and Joy Moll, *Bibliometrics: In Annual Review of Information Science and Technology* (New York: Knowledge Industry Publication 12, 1997), 34.

<sup>7</sup> Satish Kumar, “Bibliometric mapping of Research Productivity of TIER Mumbai seen through the mirror of Web of Science,” *Library Philosophy and Practice (e-journal)* (May 2018): 2, accessed June 23, 2021, <http://digitalcommons.unl.edu/libphilprac/1819>.

<sup>8</sup> Kulas Krippendorff, *Content Analysis: An Introduction to its Methodology* (New Delhi: International Education and Professional, 2004), 18, accessed May 3, 2021, <https://usu.instructure.com.pdf>.

### **Aim and Objectives of the Study**

The main aim of the present study is to explore the growth of the publication output of Lashio University Research Journal. The objectives of the study are:

- To study the growth of articles in all issues during the period of 2009-2020
- To find out the authorship patterns in the journals
- To find out subject- wise distribution of articles in the journals
- To evaluate the length of articles in the journals
- To identify the output of articles by language in the journals

### **Scope of the Study**

The study was limited and focused on Lashio University Research Journals published during the period from 2009 to 2020. This study analyzed 12 issues from volume 1 to volume 11 covering a particular period. There were 189 research papers contributed by faculty members of Lashio University.

### **Method of the Study**

The research method applied for the study was bibliometric analysis. This study was based on content analysis. It was a method for summarizing any form of content by counting various aspects of the content of the research journals taken for this study. The quantitative method was used to reveal the different forms. The collected data was presented by interpretation based on tables.

### **Research Questions**

This study will answer the following research questions:

- i. What is the percentage of the articles in the Lashio University Research Journals for the period 2009 to 2020?
- ii. What is the subject coverage in each volume?
- iii. What is the distribution of articles by year?
- iv. What is the frequency of publication of an individual author in each journal?

### **Literature Review**

A literature review or narrative review is a type of review article. A literature review is a scholarly paper, that includes the current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic. There are various research studies highlighting the importance of bibliometric analysis and their application to library management and administration.<sup>9</sup> The review of related literature is a significant and primary component in any research investigation.

Rabindra K Maharana and Bipin Bihari Sethi studied “a bibliometric analysis of the research output of sanbalpur university’s publication in ISI web of science during the 2007 to 2011”. They attempted to examine the content of papers published, including the annual average growth rate percent, authorship pattern, degree of collaboration, distribution,

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<sup>9</sup> Sanda Oo, and Myat Myat Win, "Bibliometric Analysis of the Universities' Research Journal (2008-2010)," *Yadanabon University Research Journal* 3, no.1(December 2011): 88. (hereafter cited as .Sanda Oo, and Myat Myat Win)

distribution of citations, and organizational affiliation of papers. Subramanyam's formula was used to calculate the degree of collaboration (C), Bradford's law was used to determine the scattering of literature in the publication pattern of the university. They described that, a total of 707 authors contributed 170 papers out of which 317 authors were affiliated with Sambalpur University and only one paper had a single author which resulted in a high degree of collaboration (0.99).<sup>10</sup>

Kotti Thavamani studied "a study of authorship patterns and collaborative research in collaborative librarianship 2009- 2014". He described a total of 223 research contributions and 343 authorship patterns by year and volume, growth of authors by year, authorship patterns, author productivity, authorship patterns by global, most prolific contributions and degree of collaboration. The result showed the average degree of author collaboration in collaborative librarianship is 0.354, which clearly indicated its dominance over single- authored contributions. However, multi-authored articles had been increased in recent years articles and 14 multi –author contributions.<sup>11</sup>

Noushad Ahmed analyzed to study the content evaluation of select websites of the department of Library and Information Science in North India. The checklist was designed for content evaluation of selected websites of DLIS which were clubbed into nine categories. This study found that the department of library and information science, Maharishi Dyanand University, Rohtak, was at the bottom rank. The result of this study could also be useful to the DLIS website developers and administrators themselves as a means for quality checking and self-improvement.<sup>12</sup>

Manoj Kumar Verma and Krishna Brahma analyzed the research articles published in Chinese librarianship: an international electronic journal (CLIEJ) for a period (1997-2016). The findings revealed that collaborative articles were more than single –authored. The USA contributed the highest number of publications, followed by Nigeria and India. Academic institutions were the most visible contributors. They found that a total of 2524 references were retrieved from 143 articles with an average of 17.65 references of per article.<sup>13</sup>

Sanda Oo and Myat Myat Win studied the analysis of the University Research Journal 2008-2010. They analyzed three volumes and 22 issues of the Journal covering a particular period of the research performance of faculty members in the various institutions of the department of higher education (lower and upper Myanmar) under the ministry of education. This study revealed the authorship pattern of articles, subject-wise distribution of articles, institution-wise distribution of articles, etc. They found that the journal plays a significant role among academicians.<sup>14</sup>

<sup>10</sup> Rabindra K Maharana, and Bipin Bihari Sethi, "A Bibliometric Analysis of the Research Output of Sambalpur University's Publication in ISI Web of Science during 2007-11," *Library Philosophy and Practice (e-Journal)* (April 2013): 1-8, accessed Jun 2, 2021, [http:// digital commons.uni.edu/libphilprac/926](http://digitalcommons.uni.edu/libphilprac/926).

<sup>11</sup> Kotti Thavamani, "A Study of Authorship Patterns and Collaborative Research in Collaborative Librarianship, 2009-2014," *Collaborative Librarianship*, 7, no. 2 (2015): 84-95, accessed Jun 6, 2021, <https://digitalcommons.du.edu/collaborative-librarianship/vol7/iss2/6>.

<sup>12</sup> Noushad Ahmed, "Content Evaluation of Select Websites of Department of Library and Information Science in North India," *Library Philosophy and Practice (e-journal)* (2017): 1-16, accessed Jun 6, 2021, <https://digitalcommons.unl.edu/libphilprac/1578/>.

<sup>13</sup> Manoj Kumar Verma, and Krishna Brahma, "A Bibliometric Study Chinese Librarianship: An International Electronic Journal, 1997-2016," *Chinese Librarianship: An International Electronic Journal*, 45 (June 2018): 43-56, accessed Jun 16, 2021, <http://www.white-clouds.com/iclc/cliej/cl45VB.pdf>.

<sup>14</sup> Sanda Oo, and Myat Myat Win, 87.

### Data Analysis and Interpretation

Bibliometrics is a new branch of information science. Bibliometrics is divided into two parts: content analysis and citation analysis. Content analysis is divided into two general categories conceptual analysis and relational analysis. Content analysis offers advantages to researchers who consider using it. In content analysis, the data collection techniques and research topics were analyzed such as authors, subjects, etc. All papers contributed to Lashio University Research Journals from 2009 to 2020 were recorded for the following analysis.

#### i Year-wise Distribution of Articles

Table 1 shows the year-wise distribution of articles. This study covered the years 2009 to 2020. During these eleven years, there were altogether 189 articles in the journals.

Table 1. Year-wise Distribution of Articles

Year	Vol . No.	No. of Issues	No. of Articles	%
2009	1	1	10	5.29
2010	2	1	10	5.29
2012	3	1	11	5.82
2013	4	1	15	7.94
2014	5	1	11	5.82
2015	6	1	10	5.29
2016	7	1	14	7.41
2017	8	1	16	8.46
2018	9	1	11	5.82
2019	10	1	27	14.29
2020	11	2	54	28.57
Total		12	189	100

Source: Lashio University Research Journals from Vol. 1 to Vol. 11

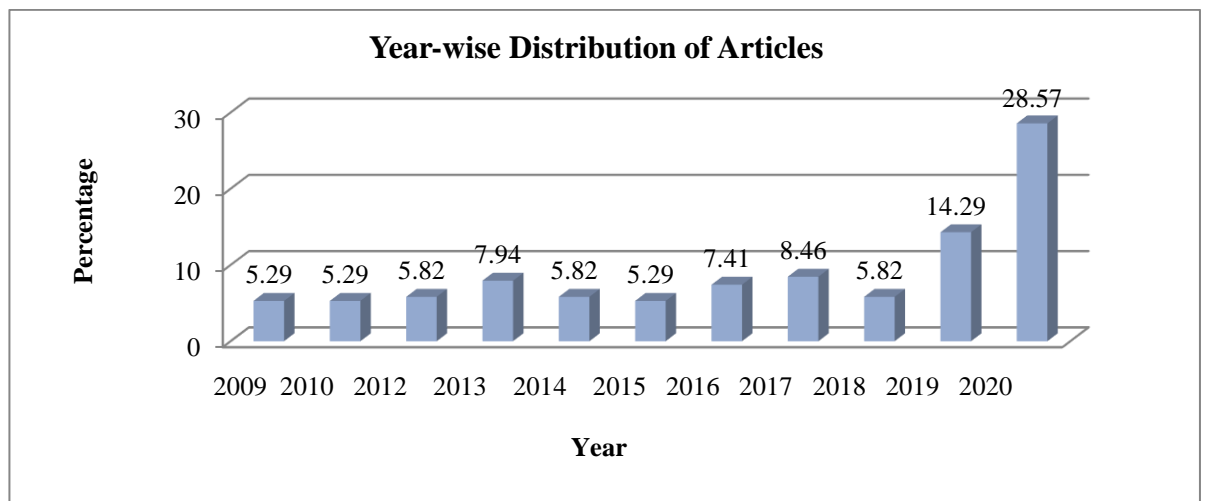


Figure 1. Year-wise Distribution of Articles

Table 1 (Fig. 1) indicates the chronology- wise distribution of research output which was published in the journals during the years 2009 to 2020. The faculty members of the Lashio University have started to publish their research work from 2009 onwards but the publication growth rate is very unstable till 2018 and after that the rate is growing rapidly till now. The above table reveals that the highest numbers of articles were published in the year 2020 (54) articles with the highest percentage (28.57%) and the lowest were in 2009, 2010 and 2015 (10) articles with the lowest percentage (5.29%). The journal published an average of 17 articles per year. Therefore, 2020 is identified as the most productive year due to the publication of 54 papers.

## ii. Subject-wise Distribution of Articles

For the subject-wise distribution, research papers were analysed base on the subject groupings of the papers. There are 12 subject fields. The following table presents the subject-wise distribution of research papers during the years 2009-2020.

Table 2. Subject-wise Distribution of Articles

Subject	No. of articles	%
Myanmar	19	10.05
English	15	7.94
History	16	8.46
Oriental Studies	5	2.64
Philosophy	11	5.82
Geography	18	9.52
Physics	22	11.64
chemistry	16	8.46
Zoology	18	9.52
Botany	18	9.52
Mathematics	17	8.99
Geology	14	7.41
Total	189	100

Source: Lashio University Research Journals from Vol. 1 to Vol. 11

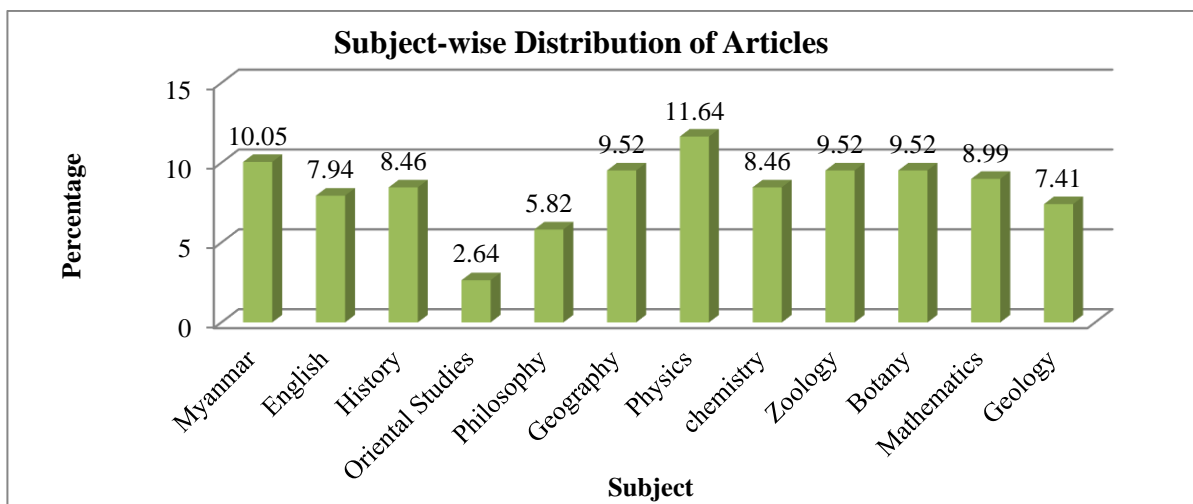


Figure 2. Subject-wise Distribution of Articles

According to above table and figure, the highest number of contributions were under physics 22 (11.64%). The second highest was taken by Myanmar with 19 (10.05%). It was followed by Geography, Zoology, Botany 18 (9.52%), Mathematics 17 (8.99%), etc. Besides, the lowest number of contributions were under Oriental Studies 5 (2.64%).

**iii. Year-wise Distribution of Authorship Pattern by Gender**

During the period of 2009-2020, all authors were analysed by gender. According to the data, the numbers and percentages of articles are very different between males and females.

Table 3. Year-wise Distribution of Authorship Pattern by Gender

Gender	2009	2010	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Male			3	6	4		4		2	7	3	23
Female			3	9	0	1	3	0	5	8	0	20
Total	5	3	6	5	4	7	7	7	7	5	3	43

Source: Lashio University Research Journals from Vol. 1 to Vol. 11

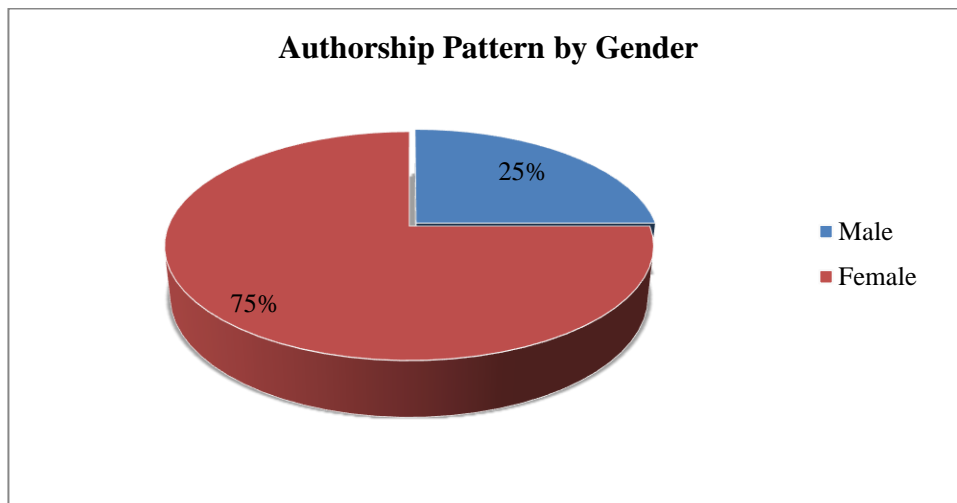


Figure 3. Authorship Pattern by Gender

Table 3 shows the year-wise distribution of the authorship pattern by gender. It was found that the maximum number of male authors was 23 (7.69%) in 2020 and the minimum was 2 (0.67%) in 2018. On the other hand, the highest number of female authors was 70 (23.41%) in 2020 and the lowest number of 8 (2.67%) was in 2009 and 2010. The total number of male authors was lower than female authors yearly. Thus, it can be seen that female authors were more dominant in the publications than male authors.

**iv. Year-wise Authorship Pattern**

In year-wise authorship pattern, there are a total of 299 authors who contributed to 189 articles during the period of 2009-2020. Those author names were recorded and analyzed to determine the authorship patterns.

Table 4. Year-wise Authorship Pattern

Pattern	2009	2010	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total	%
Single	7	8	8	9	3	5	12	9	7	21	30	119	62.96
Two	1	1	1	4	5	3	1	3	3	4	9	35	18.52
Three	2	1	2	1	2	2	1	4	-	2	15	32	16.93
More than Three	-	-	-	1	1	-	-	-	1	-	-	3	1.59
Total	10	10	11	15	11	10	14	16	11	27	54	189	100

Source: Lashio University Research Journals from Vol. 1 to Vol. 11

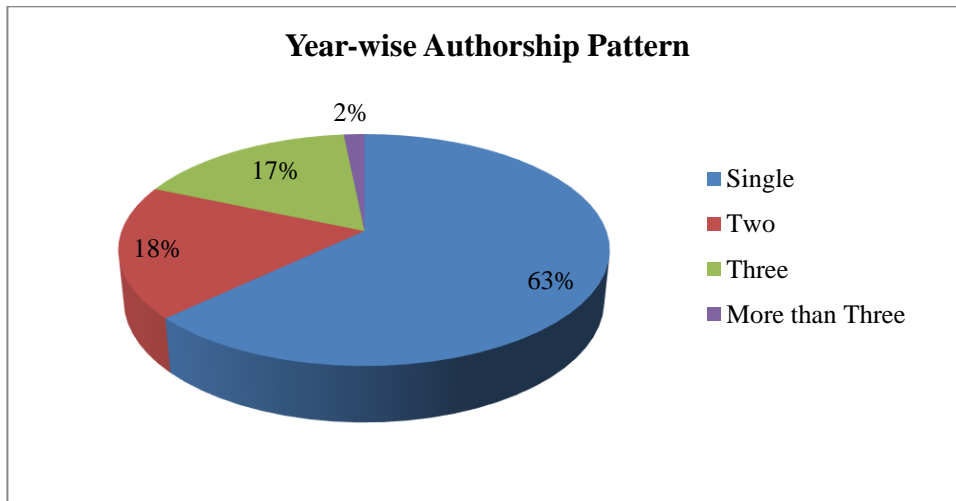


Figure 4. Year-wise Authorship Pattern

The above table deals with the authorship pattern of the articles published under the period of study. It was observed that the highest number of articles 119 (62.96%) were contributed by a single author, 35 (18.52%) number of articles by two authors, 32 (16.93%) number of articles by three authors and 3 (1.59%) number of articles by more than three authors during 2009 to 2020. It clearly shows that single authorship is predominant in the publication of the journal. It can be found that most authors prefer to publish papers singly.

#### v. Length of Articles

The following table 5 presents the length of articles contributed to research journals. According to the number of pages, it was divided into five groups: from 1 to 5 pages, 6 to 10 pages, 11 to 15 pages, 16 to 20 pages and 21 to 25 pages.



Table 5. Length of articles

ages	009	010	012	013	014	015	016	017	018	019	020	otal	
-5										4	4	18	.52
-10										8	3	00	2.91
1-15										4	7	53	8.04
6-20										1		16	.47
1-25												2	.06
otal	0	0	1	5	1	0	4	6	1	7	4	89	00

Source: Lashio University Research Journals from Vol. 1 to Vol. 11

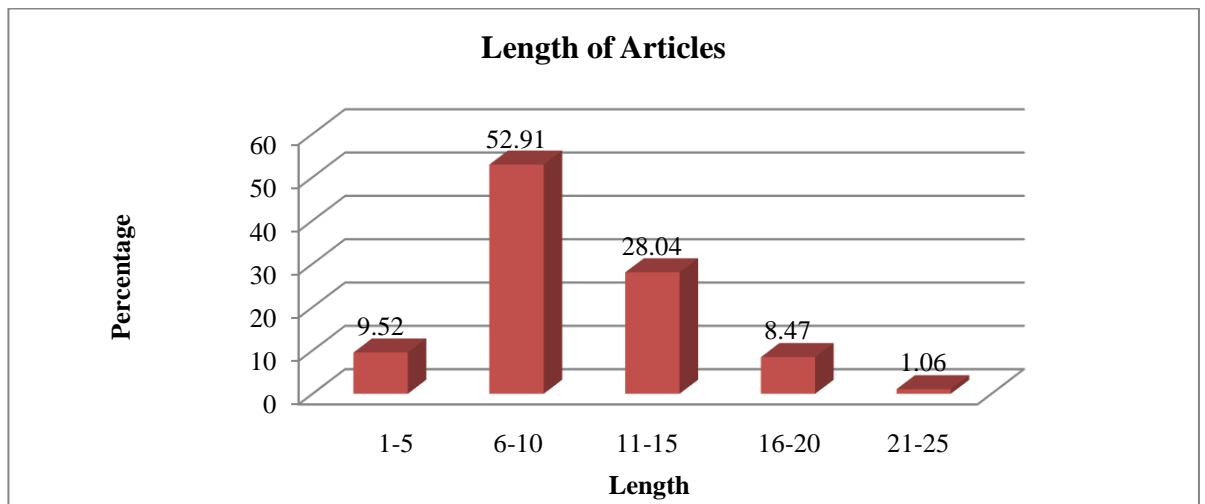


Figure 5. Length of Articles

Table 5 (Fig. 5) shows that the majority of the articles 100 (52.91%) were the length of 6-10 pages, followed by 53 (28.04 %) articles with 11-15 pages, 18 (9.52%) articles with 1-5 pages and 16 (8.47%) articles with 16-20. In this study, the researchers more contributed to the length of 6-10 pages. Among all articles, two articles had the longest pages with the pages 21-25 in 2014 and 2016.

**vi. Language-wise Distribution of Articles**

The following table reveals the language-wise distribution of articles during the study period 2009-2020. It is also important to note the language of publications.

Table 6. Language-wise Distribution of Articles

Language	2009	2010	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total	%
Myanmar	2	-	-	-	1	1	2	1	1	2	6	16	8.46
English	8	10	11	14	10	9	12	15	10	24	48	171	90.48
Myanmar & English	-	-	-	1	-	-	-	-	-	1	-	2	1.06
Total	10	10	11	15	11	10	14	16	11	27	54	189	100

Source: Lashio University Research Journals from Vol. 1 to Vol. 11

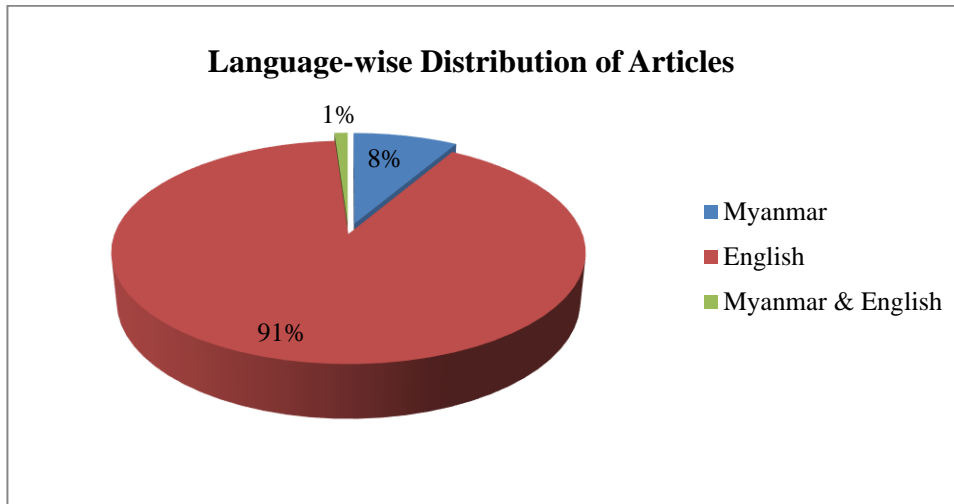


Figure 6. Language-wise Distribution of Articles

Table 6 indicates that the majority of articles were written in English language with 171 (90.48%), followed by the Myanmar language with 16 (8.46%). Two articles were written in both Myanmar & English. English is the dominant language because English is the official language in many countries and many research papers are published in English only.

#### vii. Designation-wise of Authors

To analyze designation-wise of authors, there were a total of 299 authors who wrote the research papers during the period of 2009-2020. The designations of researchers were divided into 9 categories.

Table 7. Designation-wise of Authors

Designation	2009	2010	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total	%
Minister	-	-	-	1	-	-	-	-	-	-	-	1	0.33
Rector & Acting Rector	-	1	-	-	-	-	-	-	-	-	1	2	0.66
Pro- Rector	1	-	1	-	1	-	-	-	-	1	-	4	1.34
Professor	4	2	6	6	5	4	1	5	2	4	19	58	19.40
Associate Professor	4	4	3	2	1	3	5	7	4	16	33	82	27.42
lecturer	2	-	1	2	2	4	4	9	3	6	24	57	19.06
Assistant Lecturer	-	5	2	4	9	1	4	1	2	2	3	33	11.04
Demonstrator/ Tutor	2	-	-	2	4	4	2	4	3	6	9	36	12.04
Students & Others	2	1	3	8	2	1	1	1	3	-	4	26	8.70
Total	15	13	16	25	24	17	17	27	17	35	93	299	100

Source: Lashio University Research Journals from Vol. 1 to Vol. 11

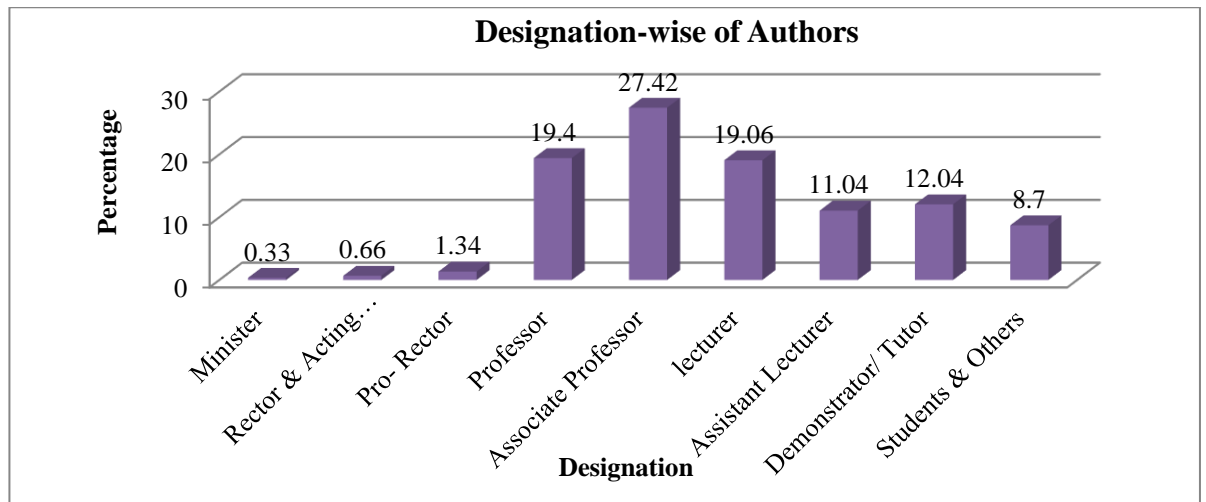


Figure 7. Designation-wise of Authors

Table 7 shows the various ranks of researchers who contributed research articles to the Lashio University Research Journals during the period 2009-2020. The analysis indicated that most articles were written by Associate Professor 82 (27.42%). Second rank is professor 58 (19.40%), followed by lecturer 57 (19.06%), demonstrator/ tutor 36 (12.04%), assistant lecturer 33 (11.04%), etc.

### Findings and Discussion

The present study carried out content analysis of Lashio University Research Journal from 2009 when the journal started publication. This study points out the following findings.

- The study reveals that the total number of articles in journals during the years 2009 to 2020 was 189.

- In the beginning of the year, the number of article was 10 (5.29%) but the numbers of articles were gradually increased till the year 2013 .
- The highest number of articles was 54 (28.57%) in 2020. The average number of articles was 17. They were published per year.
- The present study indicated that the largest number of articles were published in the field of Physics, followed by Myanmar, Geography, Zoology, Botany, Mathematics, Chemistry, History, etc.
- Within 2009-2020, female researchers were the most contributed authors in the journals.
- The analysis showed that a total of 299 authors published 189 articles during the study period. Among them, the majority of articles were written by a single author.
- The majority of articles were between the lengths of 6-10 pages.
- The study indicated that most of the articles were written in English Language by the researchers.
- According to the data, Associate Professors were the most proactive authors with 82 articles.

### **Conclusion**

Bibliometrics is an important field of information science because it represents a unique set of techniques for the monitoring and analysis of information resources and for the management of knowledge in social and organizational contexts. In this sense, bibliometrics is also relevant for researchers to track the trends in the specific fields of their research work. In this regard, Lashio University Research Journals from 2009 to 2020 were analyzed with bibliometric methods. This study attempts to investigate the research activities of the faculty members of Lashio University. During eleven years, there were 299 researchers who wrote 189 articles in journals. It was found that 10 articles were published in 2009.

The finding clearly shows that there is a great fluctuation in the numbers of articles during the period of 2014 to 2020. It is understood that faculty members have made remarkable efforts after 2018. In this study, a single author with 119 articles was the leading author trend but also two authors had a good number of articles each with 35 articles. It is observed from the study that the majority of the faculty members were interested in publishing their papers in the journals by themselves alone but some of the publications were contributed by multi-authors.

Under the content analysis for the subject, the majority of researchers appeared in physics. During the study period, the journal has tried to keep up its aim of acting as a center for all researchers. The finding indicates that the journal plays a significant role among academicians. This study will help researchers, librarians and readers who are searching for research areas or problems in their related fields. Besides, it also serves as feedback to the editors of the journal and helps them improve the status and quality of the journal.

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## References

- Ahmed, Noushad. 2017. "Content Evaluation of Select Websites of Department of Library and Information Science in North India." *Library Philosophy and Practice (e-journal)*: 1-16. Accessed Jun 6, 2021, <https://digitalcommons.unl.edu/libphilprac/1578/>.
- Balasubramanian, P., and A. Baladhandayutham. 2011. *Research Methodology in Library Science*. New Delhi: DEEP & DEEP publications PVT.
- Glänzel, Wolfgang. 2003. *Bibliometrics as a research field: A course on theory and application of bibliometric indicators*. 1-116. Accessed September 16, 2021. <https://www.semanticscholar.org/paper/BIBLIOMETRICS-AS-A-RESEARCH-FIELD-A-course-on-and-1%C3%A4nzel/4c0a6c1c7642c1eec9cbbc8423b3020b155a3c16?sort=relevance&pdf=true>.
- Krippendorff, Kulas. 2004. *Content Analysis: An Introduction to its Methodology*. New Delhi: International Education and Professional. Accessed May 3, 2021. <https://usu.instructure.com/pdf>.
- Kumar, Satish. 2018. "Bibliometric mapping of Research Productivity of TIER Mumbai seen through the mirror of Web of Science." *Library Philosophy and Practice (e-journal)* (May): 2. Accessed June 23, 2021. <http://digitalcommons.unl.edu/libphilprac/1819>.
- Maharana, Rabindra K, and Bipin Bihari Sethi. 2013. "A Bibliometric Analysis of the Research Output of Sambalpur University's Publication in ISI Web of Science during 2007-11." *Library Philosophy and Practice (e-Journal)* (April): 1-8. Accessed Jun 2, 2021. <http://digitalcommons.uni.edu/libphilprac/926>.
- Ohn Mar Oo, Dr. 2017. "Content Analysis of PhD. Dissertations submitted to the Department of History, University of Yangon (2002-2007)." *Journal of the Myanmar Academy of Arts and Science*, vol. XV, no.7 (December): 361-373.
- Okiki, Olatokunbo Christopher. 2013. "Research Productivity of Teaching Faculty Members in Nigerian Federal Universities: An Investigate Study." *Chinese Librarianship: an International Electronic Journal*, 36: 99-117. Accessed June 16, 2021. <http://www.iclc.us/cliej/cl36okiki.pdf>.
- Panda, Bibhu Prasad. 2012. *A Model Bibliometric Study*. New Delhi: SSDN Publishers & Distributors.
- Patra, Swapan Kumar, Partha Bhattacharya, and Neera Verma. 2006. "Bibliometric Study of Literature on bibliometrics." *DESIDOC Journal of Library and Information Technology*, Vol.26, no. 1 (January): 27-32. Accessed July 13, 2021. [https://www.researchgate.net/publication/279273535\\_Bibliometric\\_Study\\_of\\_Literature\\_on\\_Bibliometrics](https://www.researchgate.net/publication/279273535_Bibliometric_Study_of_Literature_on_Bibliometrics).
- Radhakrishnan, Natarajan, and Chandran Velmurugan. 2015. "Scholarly Publications by the Faculty members of Periyar University, Salem, India: A Scientometric approach." *Library Philosophy and Practice (e-journal)* (June): 2. Accessed July 3, 2021. <http://digitalcommons.unl.edu/libphilprac/1324>.
- Sanda Oo, and Myat Myat Win. 2011. "Bibliometric Analysis of the Universities Research Journal, 2008-2010." *Yadanabon University Research Journal* 3, no.1 (December): 87-88.
- Sivakumar, B., and P. Senthilkumarn. 2017. "Analysis of the Publications of the KSR College of Engineering: A Bibliometric Study." *Journal of Advancements in Library Science* 4, no.3: 1. Accessed July 16, 2021. <https://www.researchgate.net/publication>.
- Thavamani, Kotti. 2015. "A Study of Authorship Patterns and Collaborative Research in Collaborative Librarianship, 2009-2014." *Collaborative Librarianship*, 7, no. 2: 84-95. Accessed Jun 6, 2021. <https://digitalcommons.du.edu/collaborative-librarianship/vol7/iss2/6>.
- Turabian, Kate L. 2013. *A Manual for Writers Research Papers, Theses, and Dissertations: Chicago Style for Students and Researchers*. 8th ed. rev. Chicago: University of Chicago Press.
- Verma, Manoj Kumar and Krishna Brahma. 2018. "A Bibliometric Study Chinese Librarianship: An International Electronic Journal, 1997-2016." *Chinese Librarianship: An International Electronic Journal*, 45 (June): 43-56. Accessed Jun 16, 2021. <http://www.white-clouds.com/iclc/cliej/cl45VB.pdf>.

