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# A BIBLIOMETRIC STUDY OF NATIONAL EDUCATION POLICY: LITERATURE AVAILABLE ON WEB OF SCIENCE DATABASE

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***Abstract***

*This research investigates the structure and dynamics of national education policy of India over the last twenty years by using bibliometric analysis. The purpose is to aid researchers and policy makers overseas and domestic to attain a clear picture of current state of this field. 58 articles were extracted in Web of Science database published between 2002 to 2022 with the key words "National Education Policy" or "Education Policy" or "NEP" for data extraction. this paper presents the study of Most Relevant Sources, Most Relevant Author, Most Relevant Affiliation, Most Global Cited Documents, Most frequent words and applicability of Lotka's law is analysed. As per the result a continued trend toward national education policy development and global competence is predicted.*

***Keywords:*** *Bibliometric analysis, Web of Science, National Education Policy, NEP, Lotka's law.*

## INTRODUCTION

Education is necessary for knowing one's full human potential, creating a fair and egalitarian society, and helping to promote national development. Universal high-quality education is the best way forward for constructing and boosting our country's potential. Over the years, India has faced several challenges in improving the quality of education, but it has also provided opportunities to overcome those challenges and build a better system. However, the system requires better answerabilityand precision. Continuing research in science of learning techniques is of utmost importance. India provides highly skilled people to other countries in the form of brain-drain and therefore, is in dire need of well-skilled and highly educated people who can develop its economy and move the country from a developing nation to a developed one. **(Rahman, December 2022)**.

India will have the largest population of young talents, and our ability to provide them with high- quality educational opportunities will determine our country's future. India agenda for sustainable development to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" by 2030 . The world's knowledge landscape is rapidly changing, and India is on its way to becoming a developed country as well as one of the world's three largest economies. National Education Policy 2020 is the first education policy of the twenty-first century, and it strives to address our country's various expanding growth requirements and It provides a special emphasis on the development of each individual's talent and creativity.

International comparative higher education research has been part of higher education research from its very beginnings, and even earlier scholars have compared their institutions with those abroad. Scholars in higher education research have found it simultaneously intellectually challenging and rewarding to compare circumstances in different higher education system and to learn from the comparison.**(Kosmützky & Krücken, April 2014)**

Bibliometrics is a set of techniques devoted to the quantitative analysis of scientific and technical activities. Bibliometrics, scientometrics and Informetrics contributes to the evolution of all the exhaustive needs of the information seekers. Bibliometrics deals with the methods of quantitative analysis with scientific activities of scholarly literature, it is a technique used to evaluate various historical, current and future aspect of scholarly communication.

Recognising the need for amending the National Education Policy in India, The present paper investigates the literature indexed on Web of Science database on National Education policy of India on various bibliometric parameters.

**Objectives**

1. To identify the top 10 Most Relevant Sources
2. To identify the top 10 Most Relevant Author
3. To identify the top 10 Most Relevant Affiliation
4. To identify the top 10 Most Global Cited Documents.

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5. To identify the top 10 Most frequent words

**Hypothesis:** H1: It is assumed that the results of the study conform Lotka's Law of scattering.

## METHODOLOGY AND LIMITATIONS

For this study, all available literature on National Education Policy indexed on Web of Science database has been taken. The Author Keyword - ("Education Policy" OR "National Education Policy" OR "NEP") were entered, Language selection - English and Country / Region select the "India" to the data collection. The final set consisted of 58 articles found during the period 2002-2022 and considered for study, which was were downloaded as excel file (full record and cited references format). The primary technique applied is bibliometrics, which is the application of quantitative analysis and statistics to publications and has become one of the most widely used methods in the evaluation of research performance.

## REVIEW OF LITERATURE

***Ciftci, S. K. et. al.*** in his research attempts to produce a map of Turkish academic publications in the areas of educational sciences and teacher preparation. 7681 papers published in 32 distinct peer- reviewed journals between 2005 and 2014 underwent a bibliometric study. The results demonstrate that, according to Bradford's Law, core journals published one-third of all publications (Hacettepe University Journal of Education, Educational Sciences: Theory and Practice, National Education, Education and Science). Despite not following Bradford's and Pareto's Laws, the distribution of articles across publications complies with Price's Law.It has been discovered that 80\% of articles are single- or multiple-authored, that the average author score is 1.81 for each article, and that 97 authors have written more than 10 articles. The first five most commonly occurring words in the titles, according to an analysis of word frequency, are "teacher," "student," "education," "basic education," and "teaching." **(Ciftci, 2016)**

***Swapan Kumar Patra and Anup Kumar Das*** in their study makes an effort to map the international trends in academic honesty and plagiarism study and publication. The paper maps the literature growth pattern, subject areas, document kinds, and source types of scholarly literature using various bibliometrics, scientometrics, and social network methods. Additionally, it analyses a topic using keyword analysis and discovers key journals, effective institutions, and effective nations. The study aims to place India's position and research trends in the larger global context. It has been noted that India's scholarly writing in these fields has grown recently. Even yet, it is not on par with the expansion of literature worldwide. The keyword research revealed that Indian literature is more focused on computer and ICT-related topics than international research in the medical field. The report suggests that Indian scholars adopt a more targeted and comprehensive research strategy.The goal of the paper is to map the global literature on academic honesty and plagiarism using data on scholarly publications that may be found in a global indexing and citation database. Due to its extensive coverage of publications in science and technology, the Scopus database was chosen. The study took place between 2000 and 2018. Due to the globalisation of higher education and the exponential increase of scholarly writing, the publications from 2000 were selected. This study, which charts the subject's growth and dynamics, is timely given the situation. The survey noted the expansion of academic publications in recent years. The scientific literature on this subject in India is expanding at an exponential rate with publications in other countries. The Government of India's newly enacted policy documents may encourage more literature development in this emerging field. **(Patra & Das, March 2019)**

***Suresh Yenugu*** stated in his article that in 2020, the Indian government announced the National Educational Policy (NEP). The policy seeks to achieve the set goals in spirit and intent by prioritising action points in a comprehensive manner, which entails careful planning, monitoring, and collaborative implementation, timely infusion of necessary funds, and careful analyses and reviewing at multiple implementation steps. The establishment of a National Research Fund, the establishment of a new Higher Education Commission of India, and investments amounting to 6\% of the country's GDP are all planned. According to perspectives stated in numerous venues, the policy was both beneficial and harmful. While certain components of NEP are innovative, most are already practised to some level, according to the author. Implementing the NEP to effect major change in the education system necessitates an increase in intellectual, logistical, and financial commitments from all stakeholders.**(Yenugu, 2022)**

***Nirmala Sahu and Harekrushna Behera*** studied the outline of the history of educational policies in India from independence and will attempt to focus on the significant improvements made in the field of education beginning with independence and progressing to the revolutionary step made for NEP 2020. The study describes the stages of development in each national education policy launched in 1968 and 1986, respectively, as well as the gaps that contribute to ongoing change in the country's education road map and defining a wide design for national education policy 2020. They concluded that National education policy 2020 has attempted

to eliminate systemic disparities such as science, arts, curricular, extra curricular, vocational, and academic, among others. It also envisions a more student-centered approach that focuses on building conceptual knowledge and 21st-century abilities. This forward thinking strategy also recommends a shift in assessment practises and its emphasis on online education is an excellent step toward popularising schooling options such as online education.**(Sahu & Behera, June 2022)**

***Aithal, P.S. and Aithal, Shubhrajyotsna*** focuses on numerous policies announced in the higher education system and compares them to the system currently in place. Various innovations and expected repercussions of NEP 2020 on the Indian higher education system are explored, as well as their merits, because education leads to economic and social progress, a well-defined and forward- hinking education strategy is necessary for a country at the school and college levels. Distinct countries use different education systems based on tradition and culture, and they use different stages of their life cycle at school and college education levels to make it effective. The Government of India recently revealed its new education policy, which is based on the suggestions of an expert committee led by Dr. Kasturirangan, former chairman of the Indian Space Research Organization (ISRO). Higher education is a significant factor in determining a country's economy, social prestige, technological adoption, and healthy human behaviour. Improving GER to include every person of the country in higher education opportunities is the obligation of the country's education department. The National Education Policy of India 2020 is working toward this goal by enacting new policies to increase quality, attractiveness, affordability, and supply by opening up higher education to the commercial sector while enforcing tight quality controls in all higher education institutions. NEP-2020 is expected to meet its objectives by 2030 by encouraging merit-based admissions with free-ships and scholarships, merit and research based continuous performers as faculty members, and merit-based proven leaders in regulating bodies, as well as strict monitoring of quality through biennial accreditation based on self-declaration of progress through technology-based monitoring. All higher education institutions with the existing nomenclature of affiliated colleges will grow into multi-disciplinary autonomous colleges with degree granting power in their names, or they will become constituent colleges of their affiliated universities. The National Research Foundation, an unbiased body, will support creative initiatives in the key research fields of fundamental sciences, applied sciences, and social sciences and humanities. Higher education will become more student-centered, with the opportunity to pick core and associated studies within and across fields. Faculty members are also granted autonomy in terms of curriculum, methodology, pedagogy, and assessment models within the constraints of the policy framework. These alterations will begin in the academic year 2021-22 and will last until 2030, when the first stage of transformation will be noticeable. As a result, the Indian higher education system is shifting from teacher to student oriented, information to knowledge focused, marks to skills centric, examination to experimental oriented, learning to research centric, and choice to competency centric. **(Aithal & Aithal, August 2020)**

**Mridul Madhav Panditrao and Minnu Mridul Panditrao** under the title NEP-2020: What is in it for a student, a parent, a teacher, or us, as a Higher Education Institution/University? briefed that Prior to independence, education in India was completely controlled by the "Masters, the British Empire." The education schemes, such as the one outlined by Macaulay, were designed to produce "Babus," or clerks and bureaucrats, to serve the masters, plain and simple. Following independence, the society underwent a series of changes, policies were charted, and certain reforms were implemented, but the impact was still not realised. The GOI adopted the "2030 Agenda for Sustainable Development (SD)" in 2015, and the momentum has been building since then. NEP2020 is the outcome of a lengthy and all-encompassing effort. This article addressed the key aspects of the concerns, principles, goals, vision, difficulties, and solutions. The primary emphasis has been on higher education and its implementation. Other topics, such as vocational education, research, and online and digital education, to name a few, have also received enough attention. Overall, the administration has taken a noteworthy and extremely significant step forward.The suggested educational delivery system is highly wide, cautious, and all-encompassing. There are no distinct sections, borders, or divisions. The expected time span is substantially longer, with approximately 20 years or more planned. It begins at the elementary level and progresses to the graduate and even higher levels of education. The main focus is on transdisciplinary, comprehensive, and broad-based education. There is also a strong emphasis on vocational education, which is expected to begin early in the school phase.The policy is divided into three sections: delivery based on the learner's level, and a fourth section on how to make it happen. School, higher education, and other fields, notably professional education, are the levels.The existing 10+2 system in schools will be replaced by the new 5+3+3+4 system. More emphasis on local/Indian languages, more assistance to SEDGs and teachers in self-improvement and hence upgradation. At the university/HEI level, no single stream/discipline university will exist; instead, multidisciplinary, holistic delivery systems will be established.The controlling body must be a single body. HECI will govern higher education. Regulation will be overseen by NHERC, accreditation by NAC, finance by HEGC, and instruction by GEC with the assistance of NHEQF. Professional health-care education will experience massive development by merging multiple medical systems. Given the ongoing pandemic and the

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probability of such events, a heavy emphasis on internet and digital modes of content transmission is not only warranted, but also required. **(Panditrao & Panditrao, 2020)**

## ANALYSIS AND INTERPRETATION

**To identify the top 10 Most Relevant Sources**

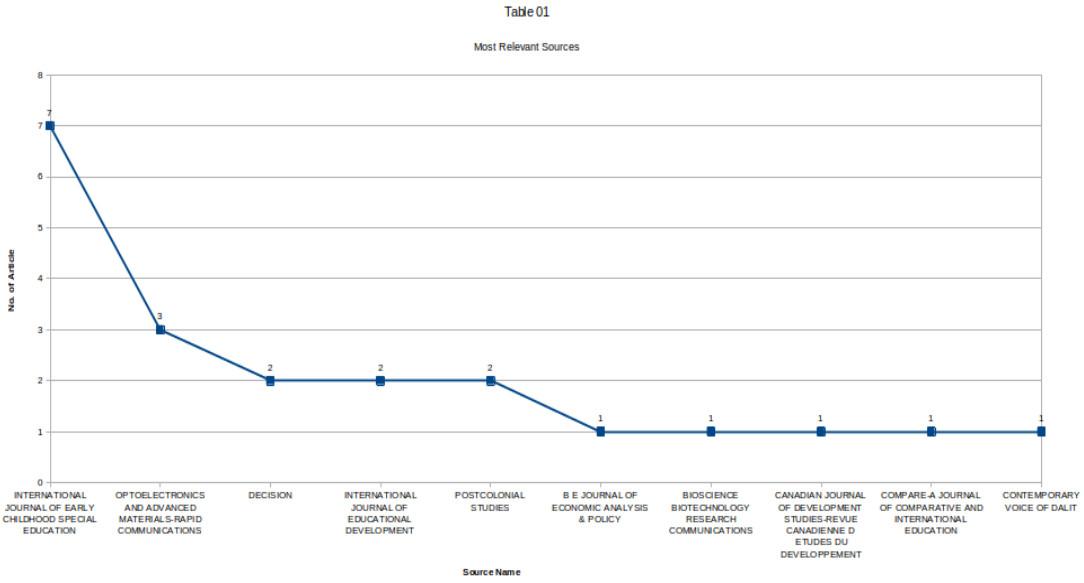
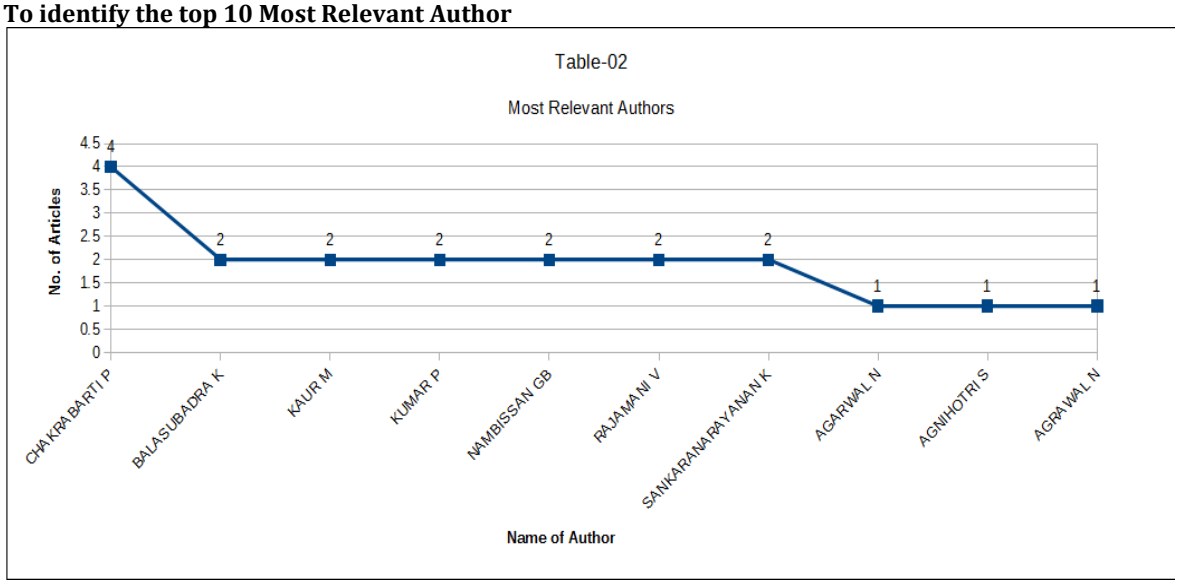



Table -1 shows the top 10 Most Relevant Sources, it is one of the important analysis for National Education Policy literature. As per the above table, it is observed that "International Journal of Early Childhood Special Education" got rank 1 with total 07 published article on National Education Policy, “Optoelectronics and Advanced Materials-Rapid Communications” got rank 02 with 03 publication, “Decision, International Journal of Educational Development and Postcolonial Studies” got combined rank 03 with 02 publication each. B. E. Journal Of Economic Analysis and Policy Bio-science Biotechnology Research Communications, Canadian Journal Of Development Studies-Revue Canadienne D Etudes Du Developpement, Compare-A journal Of Comparative And International Education and Contemporary Voice Of Dalit published 01 publications each.

**To identify the top 10 Most Relevant Author**




The most relevant author is analysed in the above table on National education policy, it showed that Chakrabarti P. published highest article on the subject (04 article), Balasubadra K., Kaur M., Kumar P., Nambissan G.B., Rajamani V. and Sankaranarayanan K. Published 02 article each., reset all authors published only one articles during 2002-2022.

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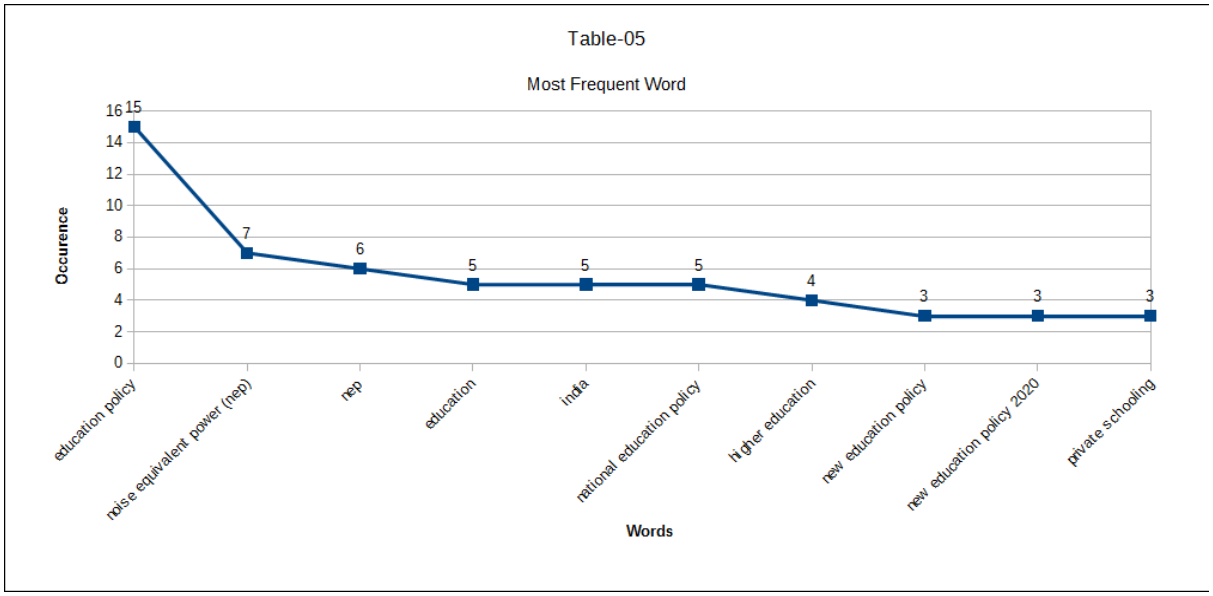
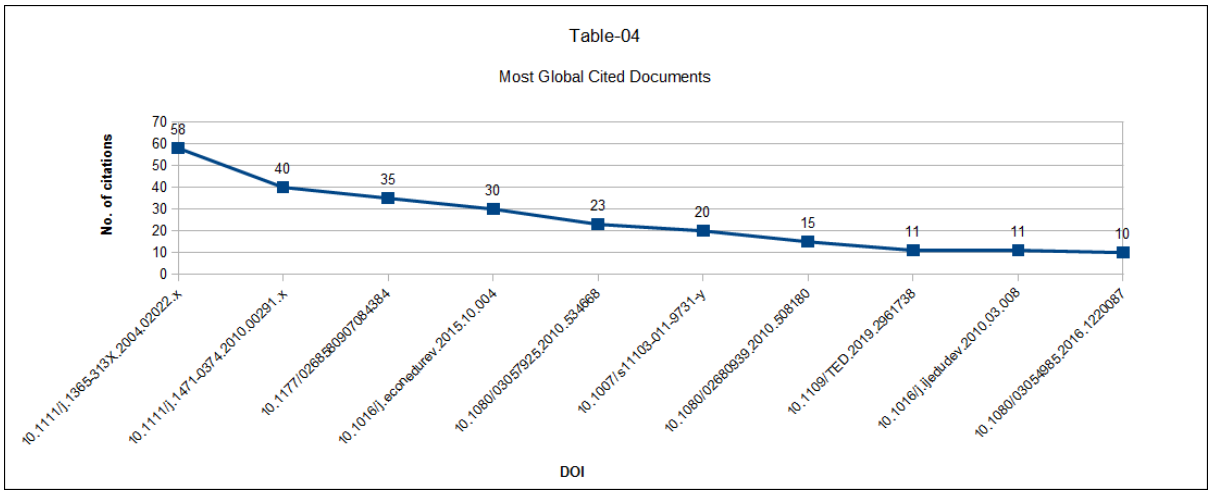



**To identify the top 10 Most Relevant Affiliation**

The list of top 10 most relevant institutions are analysed in above graph it is observed that Jawaharlal Nehru University publihsed highest article (06) on National Education Policy, Banaras Hindu University, Indian Institute of Science and Shizuoka University published 04 article each on the subject. Delhi University published 03 articles and Central University of Garhwal, GuruNanak Dev University, Indian Institute of Management, Indian Institute of Management Lucknow and Indian Institute of Technology Roorkee Published 02 article each on National Education Policy.




**To identify the top 10 Most Global Cited Documents**

In Graph 04 it is analysed that the most cited document is Baba, K.,(et.al.) (2004). (doi:10.1111/j.1365-313x.2004.02022.x) cited 58 times, Nambissan, G. B., and Ball, S. J. (2010) (doi:10.1111/j.1471-0374.2010.00291.x) cited 40 times, Chatterjee, D. P. (2008) (doi:10.1177/0268580907084384) cited 35 times. Chakraborty, T. and Bakshi, S. K. (2016) (doi:10.1016/j.econedurev.2015.10.004) cited 30 times, Mukhopadhyay, R.and Sriprakash, A. (2011) (doi:10.1080/03057925.2010.534668) cited 23 times, Leelavathi, S. (et.al.)(2011). (doi:10.1007/s11103-011-9731-y) cited 20 times, Nambissan, G. B. (2010) (doi:10.1080/02680939.2010.508180) cited 15 times, Dhyani, V., Ahmad, G., Kumar, N., and Das, S. (2020) (doi:10.1109/TED.2019.2961738) cited 11 times, Colclough, C., and De, A. (2010) (doi: 10.1016/j.ijedudev.2010.03.008) cited 11 times and Srivastava, P., and Noronha, C. (2016) (doi: 10.1080/03054985.2016.1220087) cited 10 times.

**To identify the top 10 Most frequent words (author keyword)**

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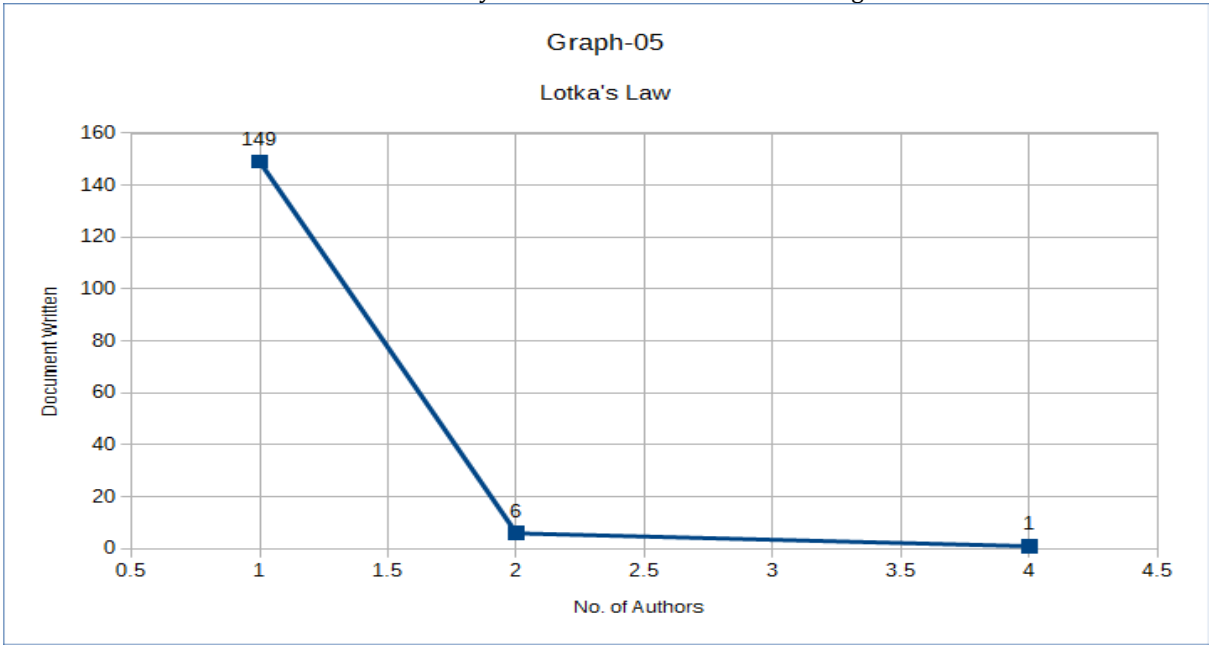
The effectiveness of information collected on the titles of the papers is more than the rest of the section of the papers. Therefore, if a word occurs more frequently than expected. The important words called 'Key Word' are one of the best indicators to understand and grasp instantly the thought content of the papers and areas of research addressed to the high frequency keywords. After the analysis of the Keywords, Graph 05 shows top 10 most frequent words used in author keyword where "education policy" used 15 times during the study and ranked top. the word "noise equivalent power (nep)" second most used keywords (7 times) in the study, Keyword "nep", "education", "India", "national education policy", "higher education", "new education policy", "new education policy 2020" and "private schooling" 6, 5, 5, 5, 4, 3,3 and 3 times . Hence the analysis shows keywords used to formulate the articles in the study is related with the scope.

**Hypothesis Testing**

H1: It is assumed that the results of the study conform Lotka's Law of scattering




Lotka's Law describes the frequency of publication by authors in a give field. It states, "the number of authors making 'n' contribution is about 1/n2 of those making one; and the proportion of all contributors, that make a single contribution, is about 60 percent"(Lotka 1926, cited in potter 1988). From the Graph-05, it is observed that single paper contributed authors contribute 95.50\% of the total authors and only 04.50\% of authors have contributed collaboratively. So we conclude that the Graph- 5 obeys the Lotka's law of scientific productivity.

## FINDINGS AND CONCLUSION

After the analysis of the data reterived from Web of Science database on National Education Policy published 58 articles during 2002 to 2022, it is concluded that:

1. "International Journal of Early Childhood Special Education" is the most relevant source with total 07 published article on National Education Policy.
2. It is observed that Chakrabarti P. is the most relevant author he published highest article on the subject (04 article)
3. The analysis on most relevant affilication are resulting that Jawaharlal Nehru University got top rank on publihsed highest article (06) on the National Edcuation Polciy.
4. The analysis of most cited document found that Baba, K.,(et.al.) (2004). (doi:10.1111/j.1365-313x.2004.02022.x) is the most cited (58 times) document.
5. Analysis of Author keyword the word "education policy" used 15 times during the study and ranked top, so we can say that the keywords used to formulate the articles in the study is related with the scope.
6. It is observed that single paper contributed authors contribute 95.5\% and the Lotka's law of scientific productivity is obeys the rules.

## FUTURE SCOPE

This study analyzed some of the quantitative interpretation of the data on National Education Policy during the years 2002-2022 as available in Web of Science Database with the help of bibliometric and citation tools and techniques. Present study seems to be a milestone on the facts analyzed in the study. Further more statistical tools and techniques may be used for resulting other bibliometric and citation analyses.

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