

Wikipedia and LIS: A study of coverage of concepts for UGC-NET

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Received: 07 September 2016; accepted: 09 February 2017

UGC-NET is an eligibility examination for those who are aspiring for the academic jobs in the universities and colleges in India. There are multiple sources, mainly printed publications, available for preparation of UGC-NET exams. The present study examines the suitability of Wikipedia as a source for preparation. The 396 topics culled from the UGC-NET syllabus in LIS was compared for their coverage in Wikipedia. It was found that 55.55% of the topics are available on Wikipedia. The answers to the previous years' questions were also searched. The study found that 35.48% of answers could be traced in Wikipedia. The Wikipedia was also examined from other parameters such as up-to-datedness, comprehensiveness, illustrations, and references and external links. The analyses show that Wikipedia could be a source for preparation for UGC-NET. The study has an implication for those who are seeking the eligibility for the jobs through UGC-NET.

Keywords: Wikipedia; Course material; Examination; LIS education; UGC-NET; Reference source

Introduction

Encyclopaedias – also spelt as encyclopedias - have been the source of information for students, researchers, scientists, teachers and the general public. There are general and subject encyclopaedias. While general encyclopaedia contains comprehensive information on areas of general interest, the subject encyclopaedias cover a particular subject area.

Historically speaking encyclopaedias existed for more than 2000 years. The first attempt to develop an encyclopaedia can be traced to *Naturalis Historia* in AD 77 by Pliny, the Elder. The term encyclopaedia itself is used as synonymous for a huge volume of work. Historically, though there have been encyclopaedias with single volumes, most of them in the recent periods were published with multiple volumes. The largest printed encyclopaedia is *Enciclopedia Universal Ilustrada Europeo-Americana* (118 volumes, 105,000 pages)¹.

With the advent of technology, there has been a paradigm shift in the development and production of encyclopaedias. The late 1980s saw the growth of

digitally produced encyclopaedias starting with CD-ROMs. The late 1990s saw the growth of online encyclopaedias. For obvious advantages, the digitised encyclopaedia becomes quite popular in its use. The *Encyclopædia Britannica* is the most widely used among the general encyclopaedias.

Another genre of production of encyclopaedia started with the adoption of the wiki – a collaborative publication technology. The collaborative content development is the main feature of the production of wiki-based encyclopaedias. Wikipedia, with the slogan “the encyclopaedia that anyone can edit”, is the best example of a successful instance in the adoption of new generation technology. The Wikipedia model with free access became so popular that even the highly reputed *Encyclopedia Britannica*, with more than 4400 named authors including 110 Nobel prize winners, has become a free encyclopaedia.

Wikipedia's popularity is not without any criticisms. The purists find fault not only with the content but also the intent of the design itself. The

criticisms about Wikipedia include accuracy of content, quality of writing, coverage of topics, bias, explicit content, privacy, sexism, and so on².

The Wikipedia is used as an academic source, criticisms notwithstanding. Many studies have shown the increased use of Wikipedia for academic purposes. Teachers, students and researchers use the Wikipedia for the preparation of assignments, presentations, projects, dissertations, group discussions, term end examinations, competitive examinations, and so on. The present study aims at quantifying the usefulness of Wikipedia for the preparation of the national eligibility test (NET) conducted in India for junior research fellowship and lecturership.

UGC-NET

The University Grants Commission (UGC) – a grant-giving agency for universities in India – has a mandate for coordination, determination and maintenance of standards in institutions of higher education in the country. As a part of talent search in the country, the UGC introduced National Eligibility Test (NET) in the year 1984 in 95 disciplines (University Grants Commission, 2015). The tests, at present, are conducted twice a year – normally in June and December. The NET is conducted for two purposes. One is to determine the eligibility for the award of the Junior Research Fellowships (JRF) and secondly, to determine the eligibility of candidates for the positions of assistant professors and/or assistant/college librarians/physical instructors at the universities and colleges in India. The candidates who have qualified for JRF are also considered as having qualified for the positions mentioned above in the universities and colleges.

The nature of tests is changing over a time, and the pattern is normalised across disciplines. At present, there are three papers of which two are subject oriented, and the other is a test for examining the general awareness, reasoning, comprehension, divergent thinking, language ability, mathematical aptitude, knowledge of information technology and so on. All these three papers are of objective type with multiple choice questions. Though there are some criticisms about the quality and nature of the tests conducted, the UGC has been following this method for the past several years. The UGC has been conducting the NET in library and information

science (LIS) since 1987. In this study, the researcher has attempted to find the suitability of Wikipedia in taking the tests in the two subject oriented papers.

Review of literature

Wikipedia has its roots in project Nupedia. The project Nupedia was started as a free online encyclopaedia under GNU licence. Wikipedia started as a parallel project, outperformed and replaced Nupedia by 2002. The content of Wikipedia is growing exponentially in its size since its origin.

The paradox is that the general use of Wikipedia is on the rise as its contents, but many studies refer to the concern of its use as an academic source for university study and research³⁻⁶. Wikipedia has received much criticism for themes like editing by non-experts, lack of stability, lack of authorial control, lack of rigour and credibility, and lack of recognition from the academic community⁷. The perception of Wikipedia in universities is changing. Lim suggested that “educators and librarians need to provide better guidelines for using Wikipedia, rather than prohibiting Wikipedia use altogether⁸”. In a study, Sholes showed that the faculty members are accepting the Wikipedia to be a usable and credible source for teaching and research⁹. The study shows that “there is a decline in the number of respondents who tell students that they should never use Wikipedia (52.55 to 31.11 percent)”. Further, the study finds that “the biggest shift is in the number of faculty who recommend that students use Wikipedia for introductory information gathering, but no inclusion in their papers (39.29 to 55.56 percent) and determined that there were minimal differences in the error rate between the two”. Konieczny also opines that slowly there is a growing acceptance of Wikipedia in a classroom environment¹⁰.

There have been works which examine the coverage of subjects in Wikipedia. Infeld and Adams have studied the aging-relevant (gerontology) coverage in Wikipedia. The Wikipedia was inspected for its coverage of 316 ageing terms. The study identified some of the gaps in the coverage and concluded that there is a scope for improving the content in gerontology¹¹. In another study, Wikipedia was found to be comprehensive in its coverage in the field of psychology¹². The study also finds that there is a growing use of Wikipedia by undergraduate

students for their personal and school related activities.

The present study is a research work aimed at examining the coverage of topics of UGC-NET in Wikipedia in the field of Library and Information Science (LIS). There are no studies found in the literature which studies Wikipedia content with respect to LIS.

Methodology

The research questions that are formulated for the present research work are:

- Whether the Wikipedia sufficiently cover the LIS topics of UGC-NET syllabus?
- Whether one could find answers in Wikipedia for the previous year questions of UGC-NET LIS exams?

The method used to answer the above questions is succinctly described here. The research was done in two stages.

Stage 1: The UGC prescribes a syllabus for the preparation for NET in all disciplines and so also in LIS. The content of the LIS syllabus is in ten units. All the ten units together cover the entire field of LIS in which the students are expected to have knowledge and skills for taking up research and teaching. Each unit in the syllabus denotes the specific area of LIS. Each unit contains the syllabus in the form of topics representing the content.

To find whether Wikipedia has the LIS UGC-NET¹³ subject content, the researcher searched the Wikipedia with suitable search words taken from the syllabus. In certain cases, the researcher had to convert the subject terms in the syllabus into appropriate keywords suitable for searching the Wikipedia content. The Wikipedia was searched, and the results were tabulated appropriately.

Stage 2: The answers to the previous years' questions of UGC-NET¹³ was searched in Wikipedia. In all 475 questions were searched for the answers in Wikipedia. Of the total questions, 250 questions were from Paper II drawn from the June examinations held between 2010 and 2014. The remaining 225 questions were from Paper III of June examinations between 2012 to 2014.

The answers taken from the solved question papers published by UGC-NET to the questions were checked for their availability in Wikipedia. The keywords from the questions along with the answers were used to search the Wikipedia. The results were tabulated appropriately.

Wikipedia and LIS

The UGC conducts the NET in LIS conforming to the syllabus it has developed for the purpose. The key phrases collected from the syllabus were searched in Wikipedia. For matching results, the details such as the topic title as found in Wikipedia, the number of levels used in Table of Contents (ToC), availability of images, the number of references given in the article, the number of external links in the article, and updated date were all collected for further analysis. This is the first stage of analysis as per the methodology designed for this study.

Coverage

The main aim of the present study is to find out the extent to which the Wikipedia covers the content of the syllabus in LIS field. Table 1 gives the data about the availability of information on the topics covered in all the units of the LIS syllabus.

Table 1 clearly shows that Wikipedia covers a little more than 55 percent of the syllabus. The degree of coverage of topics, however, in different unit varies significantly. The Wikipedia coverage of topics in Unit 3 which deals with reference sources was most comprehensive (80.95%), while the coverage of Unit 4 which deals with reference and information services was found to be least comprehensive (14.28%). Except Unit 4, all other units have more than 30 percent coverage. Hence, one might conclude that Wikipedia coverage is good enough to consider it as a source for preparation of UGC-NET.

Up-to-datedness of Wikipedia articles

Wikipedia was searched for 396 LIS concepts drawn from the UGC-NET syllabus of which 220 concepts are available. Researchers looked into the date of updating of concepts. The data was collected during March, April, May 2016. Table 2 shows the year of updating of concepts.

The Wikipedia topics are updated regularly by its contributors as confirmed by Table 2. It may be seen that 92.27% of the concepts were updated in 2016.

Table 1—UGC-NET LIS content in Wikipedia

	Unit heading (Given by the researcher)	Content phrases in the syllabus	Number of topics available in Wikipedia	Availability percent
Unit 1	Information, Communication and Society	27	17	62.96
Unit 2	Laws of Library Science, Resource Sharing and Networking and Library Associations	56	19	33.92
Unit 3	Reference Sources	21	17	80.95
Unit 4	Reference and Information Services	14	2	14.28
Unit 5	Library Classification, Cataloguing, Indexing and Information Retrieval	48	25	52.08
Unit 6	Management of Library and Information Centres	46	31	67.39
Unit 7	Information Technology	39	29	74.35
Unit 8	Library Automation and Networking	56	33	58.92
Unit 9	Research Methods	56	34	60.71
Unit 10	Types of Libraries and Digital Library	33	13	39.39
	Total	396	220	55.55

Table 2—Year of updating of concepts

Year	Number of concepts	Percentage
Y-2016	203	92.27
Y-2015	14	6.36
Y-2014	1	0.45
Y-2013	2	0.91
Total	220	100.00

Contents	
1	Overview
1.1	First Law: Books are for use
1.2	Second Law: Every reader his/her book
1.3	Third Law: Every book its reader
1.4	Fourth Law: Save the time of the reader
1.5	Fifth Law: The library is a growing organism
2	Variants
3	References
4	External links

Fig. 1—ToC layout for the article 'Five laws of library science' as found in Wikipedia. The layout contains 4 sections and 2 levels

Some of the concepts were updated in May 2016. Only 14% of them are a year old. There are hardly any concepts which are more than two years old. This clearly favours the proposition that Wikipedia is a good source for preparation for UGC-NET.

This result has implications for the students who are preparing for UGC-NET. They get most updated information in online sources such as Wikipedia.

Comprehensiveness of coverage

The researchers were interested in testing Wikipedia for the extent of which it covers the topics. The students may be interested to know whether the Wikipedia deals with the topic only superficially or to some detail. This was examined by looking into the number of sections used for each topic. Fig 1 shows the Table of Contents (ToC) in Wikipedia showing

the sections and subsections used in the article ‘Five laws of library science’. For the purpose of analysis, the data was collected from the ToCs of the articles in Wikipedia.

The data collected (Table 3) shows that about 45 (20.45%) articles do not have any sections. For example, the Wikipedia articles “Library Science Education in India”, “Anglo-American Cataloguing Rules”, “Information needs”, etc., do not have any sections at all and hence there is no ToC for them.

The majority (79.55%) of the Wikipedia articles have sections. Ninety three (42.27%) articles have sections ranging between 6 to 10. It is interesting to note that there are articles with more than 20 sections also. The article “National Social Science Documentation Centre” has a maximum number of sections in this study. It has 22 sections and 2 levels. Similarly, the article “Computer” has 19 sections with 3 levels.

A further extensive study is required to find whether the number of the sections has any

relationship with the length of the article, though apparently, it appears to have. Suitability of the content is another area of research that needs to be carried out.

Illustrations in Wikipedia articles

‘A picture is better than thousand words’ is an English idiom. The pictorial representations help the students to understand the concept clearly. The presence of illustrations is thus important in a reference source like Wikipedia. Table 4 shows the data collected in the study about the illustrations found in Wikipedia for LIS articles. Of the total of 220 articles, 99 (45%) articles contain illustrations in Wikipedia. There are 469 illustrations at an average of 2.13 illustrations per article which is quite impressive and worthy to be considered as a reference source.

The distribution of illustrations in the articles considered in the study is shown in Table 4. 33.18 % of articles contains 1 to 5 images. There are articles containing more than 35 images. The article on “Library” has 37 images which are maximum in the data set collected for this study.

Table 3—Number of sections in Wikipedia articles

Sections	Number of articles	Percentage
0	45	20.45
1-5	36	16.36
6-10	93	42.27
11-15	40	18.18
16-20	5	2.27
21-25	1	0.45
Total	220	100

Table 4—Illustrations in Wikipedia articles

Number of illustrations	Number of articles	Percentage
0	121	55.00
1-5	73	33.18
6-10	17	7.73
11-15	4	1.82
16 - 20	1	0.45
21-25	2	0.91
26 - 30	1	0.45
31-35	0	0.00
36 - 40	1	0.45
Total	220	100

References and external links

A good reference source contains a list of references and also gives a list for further reading. The Wikipedia articles contain both of these types. They are called references and external links respectively. Wikipedia as a part of its verifiable policy encourages giving as many references for an article. The policy clearly states that “Wikipedia's verifiability policy requires inline citations for any material challenged or likely to be challenged, and for all quotations, anywhere in article space” (Wikipedia, 2016). Table 5 shows the references in the Wikipedia articles for the data set considered in the study. The references and external links in 220 articles are 5505 and 531 respectively. On an average, each article has 25.02 and 2.87 references and external links respectively. The external links are deliberately kept minimum by Wikipedia and hence, the data is not given in the form of a table in the present article. The data on references and external links shows that Wikipedia article match with research articles found in journals regarding the references.

It may be observed from Table 5 that about 60% of the articles contain references ranging between 1 to 25. There are 30 (13.64%) articles with no references. On the other hand, there are instances of over-referencing. The articles on Firefox, Google Chrome and Google contain 222, 261 and 331 references respectively. In any case, around 86% of the articles in Wikipedia contain references which also indicate that Wikipedia is a good source of information for the preparation by UGC-NET aspirants.

Discussion

In the first stage of the methodology adopted for this study, the usefulness of the Wikipedia was examined by parameters such as coverage, up-to-datedness, comprehensiveness, illustrations, and

references & external links. The results on all the five parameters show that Wikipedia can be a serious competitor for becoming a source of reference and study by the students of LIS for their UGC-NET in particular, and any other exams in LIS in general.

The comprehensiveness can also be measured through the length of the article in terms of page length or size in bytes. The present study did not look into this aspect. But, by the experience of the researchers, one can say that Wikipedia article contains sufficient information on the majority of the topics it covers.

Wikipedia and UGC-NET LIS previous years' questions

Wikipedia was examined for the availability of answers for the previous questions papers. The paper II of UGC-NET consists of 50 objective type questions based on the LIS syllabus. For the present study, five question papers administered for the June tests between 2010 and 2014 were downloaded along with their answers. The Wikipedia was searched for the answers to the questions through the subject keyword(s). If the answer was found, the details of the articles were recorded appropriately.

One of the research questions of this study was to ascertain the extent of answer that is available for the questions asked in Paper II in LIS in the UGC-NET. The answers were searched for the questions asked in the UGC-NET between 2010 and 2014. It may be noted here that all questions cannot be considered for searching the Wikipedia. Some of the questions would be of assertion or reasoning type, for example. For such questions, one cannot expect answers to be found in any reference source. They have been ignored for calculation purposes. Of the 250 questions, only 98 (39.2%) were searchable questions from Paper II.

Similarly, 225 questions from paper III were also searched. Of the 225 questions, answers to only 88 (39.11%) were found in Wikipedia.

Table 6 gives a consolidated data for papers II and III.

Table 6 data shows that around 35.48% of answers are available for the questions in Paper II and Paper III of LIS. This shows that Wikipedia can possibly be considered as one of the important sources for preparation for UGC-NET in Library and Information Science.

Table 5—References in Wikipedia

References	Number of articles	Percentage
0	30	13.64
1-25	130	59.09
26-50	37	16.82
50-75	8	3.64
76-100	3	1.36
101-200	9	4.09
201-400	3	1.36
	220	100

Table 6—Availability of answers in Wikipedia

	UGC-NET Questions	Answers in Wikipedia	Percent
Paper II	98	35	35.71
Paper III	88	31	35.22
Total	186	66	35.48

Conclusion

The UGC-NET is essential for the getting the research fellowship and/or the job equivalent to assistant professor or assistant librarian at colleges or universities in India. As it is a minimum eligibility criterion prescribed by the UGC, the number of aspirants are increasing every year. Students require a variety of sources for preparation for the UGC-NET exam. There are books published covering the syllabus prescribed by UGC. Some of them are objective type books; some are the descriptive type, and others are a mixture of both. These kinds of books become outdated sooner apart from being expensive. The students naturally look for an alternative source for preparation.

From the present study, it can be concluded that Wikipedia could be considered as an additional source for preparing for the UGC-NET in LIS. Further studies could compare Wikipedia informaton with other information such as textbooks and other study materials.

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