

Online Resources on “Surgery and Related Medical Specialities” as Indexed in Bielefeld Academic Search Engine (BASE) : A Case Study

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Abstract

The present study aims at conducting a quantitative analysis of documents on ‘Surgery and related medical specialties’ as indexed in Bielefeld Academic Search Engine (BASE). The data was collected from the BASE website in February, 2020. DDC index was used to narrow down the search string to get required data. The study reveals that : a total of 6859 documents are available on surgery and related medical specialties in BASE database; only 1105 documents are tagged with some kind of licenses ; a majority of 791 documents have CC-BY-NC-SA license; a majority of 4019 documents are open access documents ; out of 14 document types, a huge majority of them are doctoral and post-doctoral theses (4538). 746 documents are theses, 708 documents are articles, 404 are books and 170 are texts ; a majority of 5050 documents on surgery and related medical specialties in BASE engine are in German language followed by 806 documents in Spanish and 682 documents in English; 31 content providers contributed 20 or more than 20 documents and a majority of 808 documents are provided by Guatemala San Carlos Univ. (USAC) : Repositorio followed by 558 documents by Freiburg Univ.; a majority of 591 documents were published in the year 2018 followed by 490 documents in 2016, 484 in 2012, 479 in 2014 and 475 in the year 2019; the most productive authors include Universitäts –und Landesbibliothek Munster with 282 documents, Medizin with 203 documents, Universität Leipzig with 167 documents and Schmelzeisen, Rainer with 141 documents.

Keywords : *BASE, BASE search Engine, Surgery, Information resources, online resources, academic web resources, medical specialties*

Introduction

BASE is one of the world's most voluminous search engines especially for academic web resources. e.g. journal articles, preprints, digital collections, images / videos or research data. BASE provides more than 150 million documents from more than 7,000 sources. You can access the full texts of about 60% of the indexed documents for free (Open Access). BASE is operated by Bielefeld University Library.

BASE is indexing the metadata of all kinds of academically relevant resources – journals, institutional repositories, digital collections etc. – which provide an OAI interface and use OAI-PMH for providing their contents. BASE is a registered OAI service provider. Database managers can integrate the BASE index into their local infrastructure (e.g. meta search engines, library catalogues).

Features of BASE

In comparison to commercial search engines, BASE is characterized by the following features:

- Sources are indexed only after check by qualified personnel of Bielefeld University Library
- Only document servers and journals that comply with the specific requirements of academic quality and relevance are included
- A data resources inventory provides transparency in the searches
- Discloses web resources of the "Deep Web", which are ignored by commercial search engines or get lost in the vast quantity of hits
- Correction, normalization and enrichment of metadata by means of automated methods
- Multilingual search (find search terms in more than 20 translated languages)
- The display of search results includes precise bibliographic data
- Display of access and terms of re-use for a document
- Several options for sorting the result list (by author, title, date)
- "Refine your search result" options (by author, subject, DDC, year of publication, content provider, language, document type, access and terms of re-use)

- Browsing by DDC (Dewey Decimal Classification), document type, access and terms of re-use / licence (“What is Base?”, n.d.).

Through BASE you can search: (“Content Sources”, n.d)

- Number of documents:159,379,414
- Number of content sources:7,832
- Last update:2020-02-21

What is Different about BASE?

BASE facilitates effective and targeted searches and retrieves high quality, academically relevant results. Other than search engines like Google or Bing BASE searches the deep web as well. The sources which are included in BASE are intellectually selected (by people from the BASE team) and reviewed. That's why data garbage and spam do not occur (‘FAQ’, n.d.).

Home Page of BASE

Fig.1 shows the home page of BASE search engine.

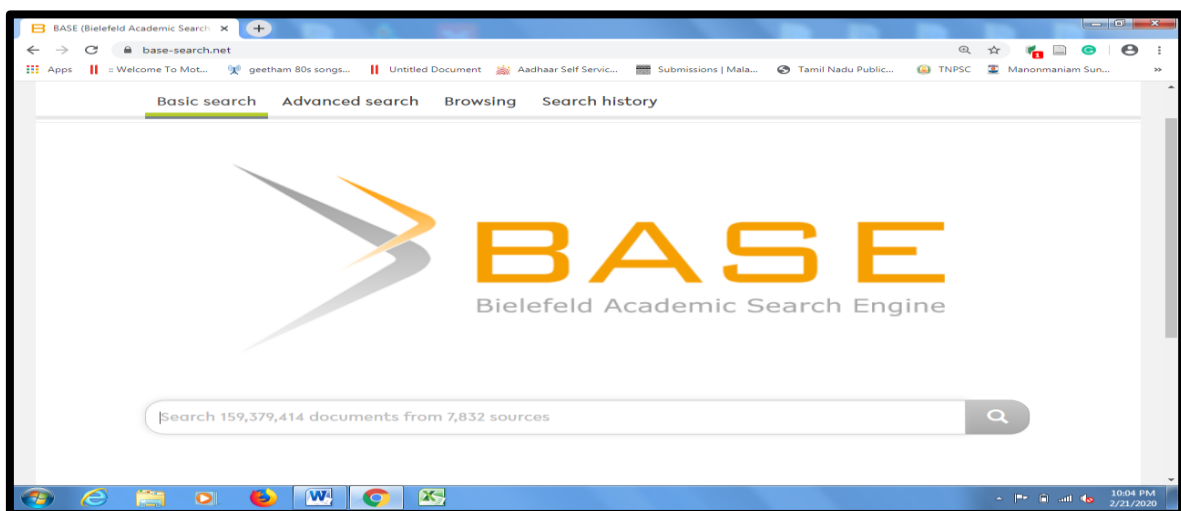


Figure 1 : Homepage of BASE

Browsing in BASE

BASE permits four types of searching. They are:

- DDC (Dewey Decimal Classification)
- Document Type
- Terms of Re-use / Licenses
- Access

Resources in Medicine

Figure 2 shows the category-wise count of number of documents available in Medicine. The largest number of books is from medicine and health followed by human physiology, surgery and related medical specialties and pharmacology & therapeutics.

Search Results

The researcher selected the option DDC in the browsing page. In the resulted page, he had chosen medicine. In the medicine, he had chosen ‘Surgery and other related medical specialties’ (Figure 2).

Outcome of the search

Figure 3 shows that there are 6859 documents as indexed in BASE on ‘Surgery and related specialties’.

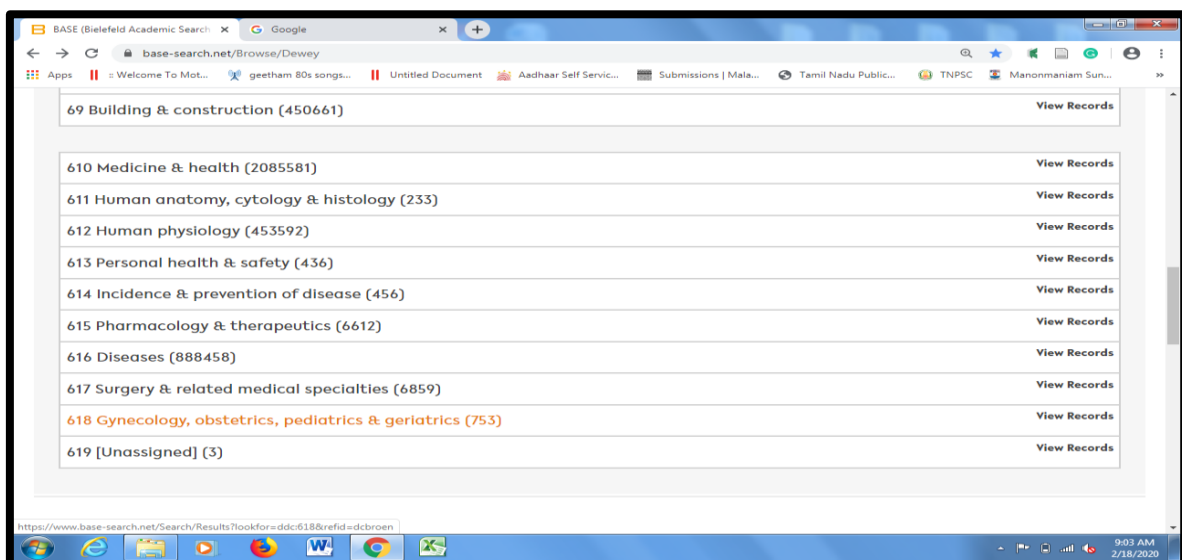


Figure 2 : Display of resources under 610 – Medicine

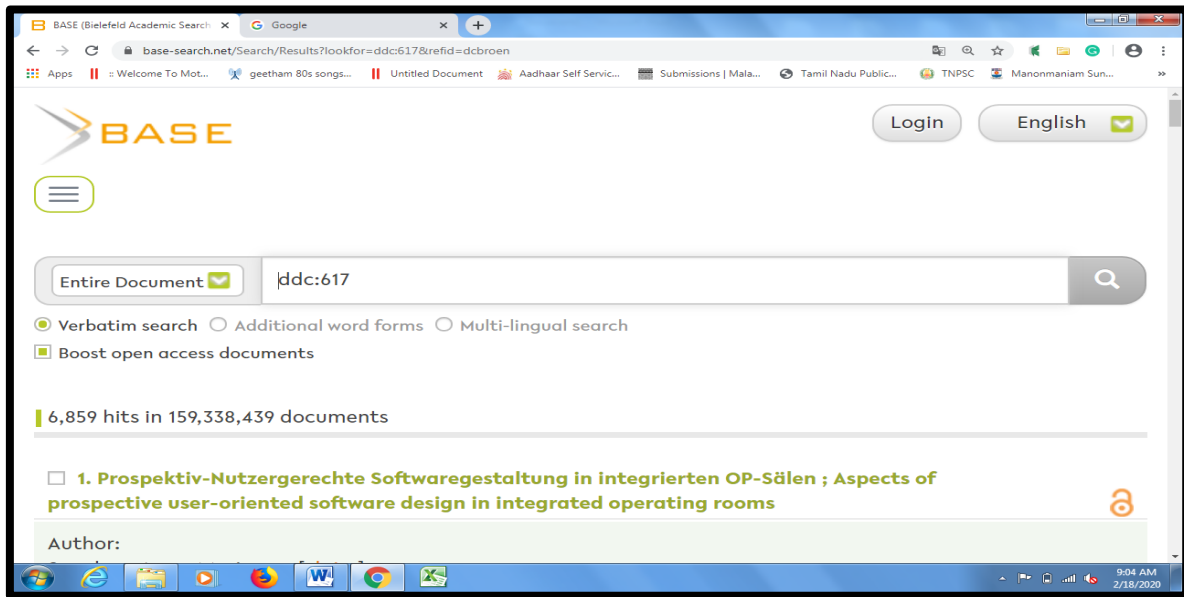


Figure 3: Total documents retrieved from BASE on ‘Surgery and related medical specialties’

Findings

Table 1 : Terms of Use

S.No	Terms of use	Frequency
1	CC-BY-NC-SA	791
2	CC-BY	162
3	CC-BY-NC-ND	92
4	CC-BY-SA	28
5	CC-BY-ND	19
6	CC-BY-NC	13
Total		1105

Table 1 shows that out of 1105 documents tagged with various terms of use / licenses, a majority of 791 documents have CC-BY-NC-SA license followed by 162 documents with CC-BY license. While 90 documents have CC-BY-NC-ND licenses, 28 documents have CC-BY-SA. The least of number of 19 documents have CC-BY-ND licenses and 13 documents have CC-BY-NC licenses.

Table 2 : Nature of Access

S.No	Nature	Frequency
1	Open Access	4019
2	Unknown	2576
3	Non Open Access	264
Total		6859

Table 2 shows that out of 6859 documents, a majority of 4019 documents are open access documents while 264 documents are non-open access documents. No information is available about the access status of the remaining 2576 documents.

Table 3 : Document types

S.No	Document Types	Frequency
1	Doctoral And Post-Doctoral Thesis	4538
2	Thesis	746
3	Article Contribution	708
4	Book	404
5	Unknown	229
6	Text	170
7	Conference Object	31
8	Bachelor Thesis	22
9	Other Non-Article	12
10	Master Thesis	7
11	Report	6
12	Book Part	4
13	Still Image	3
14	Audio	1
Total		6881

We could see, in Table 3 that the documents on surgery and related medical specialties as available in BASE search engine, belong to 14 document types. A huge majority of them

are doctoral and post-doctoral theses (4538). 746 documents are theses, 708 documents are articles, 404 are books and 170 are texts. While 31 documents are conference objects, 22 are bachelor theses and 12 are other non-articles. Less than 10 documents are master theses, reports, still images and audio file.

Table 4 : Languages

S.No	Languages	Frequency
1	German	5050
2	Spanish ; Castilian	806
3	English	682
4	Unknown	373
5	Japanese	48
6	Slovenian	7
7	French	3
8	Czech	1
9	Croatian	1
10	Lithuanian	1
Total		6972

Table 4 shows that a majority of 5050 documents on surgery and related medical specialties in BASE engine are in German language followed by 806 documents in Spanish and 682 documents in English. While 48 documents are in Japanese language, less than 10 documents are in Slovenian, French, Czech, Croatian and Lithuanian languages.

Table 5 : Content Providers (20 and above)

S.No	Content Provider	Frequency
1	Guatemala San Carlos Univ. (USAC) : Repositorio	808
2	Freiburg Univ. : FreiDok	558
3	Ulm Univ.: OPARU	433
4	Wurzburg Univ.: Online publication service	391

5	Digital Library Thuringen	355
6	Tubingen Univ.: Publication system	348
7	Hochschulbibliotheken Sachsen-Anhalt : Share it	307
8	Hamburg Univ.: Dissertationen	291
9	Bochum Univ. (RUB) : Dokumentenrepositorium	285
10	Munich LMU : Electronic Theses	282
11	Munster Univ.: (WWU) : miami	282
12	Regensburg Univ.: Publication Server	270
13	Bochum Univ.: (RUB) : Dissertations	206
14	Giessen JLU : Publication Server	204
15	Leipzig Univ.: Qucosa	200
16	Munich TU : media TUM	157
17	Kiel Univ.: MACAU	151
18	Frankfurt/Main Univ.: Publication server	150
19	Greifswald Univ.: Publication Server	143
20	Zurich Univ. of applied Sciences : ZHAW...	133
21	DOAJ articles	101
22	Gottingen Univ.: GIEDOC	101
23	Zurich Univ.: (UZH): ZORA	92
24	RERO DOC digital library	77
25	Eriangen-Nurnberg Univ.: OPUS	75
26	Duisburg-Essen Univ.: DuEPublico	59
27	Okayama Univ.: Scientific Achievement Repository	49
28	Vienna Univ.: E-theses	31
29	Louvain Univ. Catholique : DIAL	29
30	Berlin HU : edoc	28
31	Dresden Univ. Tech.: Qucosa	20
		6616

Table 5 shows that there are 31 content providers who have contributed 20 or more than 20 documents on surgery and related medical specialties in BASE engine. A majority of 808

documents are provided by Guatemala San Carlos Univ. (USAC) : Repositorio followed by 558 documents by Freiburg Univ. : FreiDok, 433 by Ulm Univ.: OPARU, 391 by Wurzburg Univ.: Online publication service, 355 by Digital Library Thuringen, 348 by Tübingen Univ.: Publication system and 307 by Hochschulbibliotheken Sachsen-Anhalt : Share it. There are eight institutions that have provided 200 to 300 documents in BASE engine on surgery and related medical specialties. While 7 institutions have provided 100-160 documents while 4 institutions have provided 50-92 documents. There are 5 institutions that have contributed 20-49 documents on surgery and related medical specialties in BASE engine.

Table 6 : Year of Publication

S.No	Year of Publication	Frequency
1	1970	1
2	1988	1
3	1989	2
4	1990	1
5	1991	1
6	1992	2
7	1993	1
8	1994	1
9	1996	1
10	1998	9
11	1999	27
12	2000	34
13	2001	58
14	2002	92
15	2003	205
16	2004	208
17	2005	274
18	2006	302
19	2007	268

20	2008	322
21	2009	350
22	2010	412
23	2011	358
24	2012	484
25	2013	413
26	2014	479
27	2015	501
28	2016	490
29	2017	434
30	2018	591
31	2019	475
32	2020	41
Total		6838

Table 6 shows the evolutionary growth of documents on surgery and related medical specialties as available in BASE engine. We could observe less than 50 documents published before 2001. A majority of 591 documents were published in the year 2018 followed by 490 documents in 2016, 484 in 2012, 479 in 2014 and 475 in the year 2019. While 434 documents were published in the year 2017, 413 and 412 documents were published in 2013 and 2010 respectively. 300-400 documents were published in 2006(302), 2008(322), 2009(350) and 2011(358). 200-300 documents were published in 2003 (205), 2004 (208), 2005 (274) and 2007 (268). 50-100 documents were published in 2001 (58) and 2002 (92). We could observe a positive growth pattern of documents on surgery and related medical specialties as available in BASE engine.

Table 7 : Authors (15 and more documents)

S.No	Author	Frequency
1	Universitäts –und Landesbibliothek Munster	282
2	Medizin	203
3	Universität Leipzig	167

4	Schmelzeisen, Rainer	141
5	Gutwald, Ralf Jochen	43
6	Schon, Ralf	38
7	Schramm, Alexander	34
8	Gellrkich, Nils-Claudius	32
9	Luomajoki, Hannu	28
10	Guntinas-Lichius, Orlando	27
11	Schultze-Mosgau, Stefan	27
12	Settmacher, Utz	26
13	Neumeier, Dieter	24
14	Hofmann, Gunter O	22
15	Sauerbier, Sebastian	22
16	Metzger, Marc Christian	21
17	Hoffman, Thomas	20
18	Elick, Sigrun	19
19	Schmelzeisen, R	19
20	Glockmann, Elke	17
21	Melloh, Markus	17
22	Sudkamp, Norbert P	17
23	Sigusch, Bernd W	16
24	Al-Ahmad, Ali	15
25	Bauer, Michael	15

Table 7 shows the authors who have contributed 15 and more than 15 documents on surgery and related medical specialties as available in BASE engine. Both individual and institutional authors are listed in the table. The most productive authors include Universitats –und Landesbibliothek Munster with 282 documents, Medizin with 203 documents, Universitat Leipzig with 167 documents and Schmelzeisen, Rainer with 141 documents. While Gutwald, Ralf Jochen has authored 43 documents, Schon, Ralf has authored 38 documents, Schramm, Alexander 34 documents and Gellrkich, Nils-Claudius has 32 documents. While 8 authors have authored 21-28 documents, 9 authors have

authored 15-20 documents on surgery and related medical specialties as available in BASE engine.

Conclusion

The growth of online resources is tremendous and fascinating. The students, research scholars and faculty members depend more on electronic resources / online digital resources than on the conventional printed sources of information available in library and information centres. It is a welcoming sign that a university has developed a search engine for the benefit of academic community to enable the later to search and access exhaustive and pin-pointed academic content on various disciplines. More and more content providers should sign MOU with BASE engine and make their content available online. The BASE search engine may include a variety of other features as available in the popular search engines like Google. Along with general search engines, let's promote the use of academic / scholarly search engines like BASE among the academic fraternity.

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