

# Chapter 4 Information and Bibliographical Searches

## About This Chapter

One of the marked differences between universities, and elementary schools to high schools is the accumulation of “knowledge.” As described in the “Introduction,” “knowledge” here means “literature,” such as books, academic journals and online journal databases. For example, Waseda University has such libraries as the Central Library, the S. Takata Memorial Research Library, the Toyama Library, the Science and Engineering Library and the Tokorozawa Library. These are the cores of their respective campuses. In addition, some Schools have Students’ Reading Rooms. These Students’ Reading Rooms are small in size, but each boasts a collection of about 50,000 volumes, which is larger than the number of books owned by an average high school library. Moreover, books are selected according to the needs of the academic fields of individual Schools. Book selection is important in the academic fields which employ a systematic learning structure. It is important to learn systematically from “literature with a solid reputation” during the early stages of education<sup>1</sup>, and not to read instead everything you can get your hands on. Waseda University as a whole possesses about 4,780,000 books, 50,000 different academic journals in where the latest academic findings are published, and over 6,000 different online journals which can be viewed over the network. Except for some valuable books and research materials, these books are available to every member of the University with practically no restrictions. Similarly, other universities should have accumulated a great many more books than elementary and secondary schools have<sup>2</sup>. Universities have been spending a large part of their budget every year to build such well-equipped environments. That is because this literature is a foundation supporting learning and scholarship.

It would be a waste not to take advantage of this vast body of “knowledge,” or literature. In terms of collections of academic books, especially those written in English, nothing comes close to university libraries<sup>3</sup>. However, since the collection is so enormous, you can no longer find “books on a certain subject” by staring at bookshelves or flipping through a card catalog<sup>4</sup>. Today’s card catalog is digitized and information is retrieved from it by using a computer.

Libraries are often misunderstood as being anachronistic because they deal with printed books, but actually libraries are one of the most advanced departments in terms of computerization in the university. Therefore, in order to use libraries efficiently and effectively instead of aimlessly, you need to learn how to use them with a computer. For example, you can search and reserve books, make a request for an interlibrary loan (ILL) from one of our affiliated universities, or make a request for the purchase of a book, via the Internet from home. But that is not all. You can view digital books, databases, and online journals to which the university subscribes in their entirety on a PC<sup>5</sup>.

Then, what should we do to embrace the computerization of libraries? In the old days, it required a great deal of effort to find what you were looking for from the large amount of literature accumulated. But in a computerized library, a little computer knowledge enables you to find what you need relatively easily. Similarly to search engines like Google and Yahoo!, certain search methods (search expressions) allow you to narrow the scope of a search dramatically. In this chapter, we will learn how to use the computerized library environment.

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<sup>1</sup> In addition, the university has Faculty Library Rooms and Research Library Rooms mostly for use by Academic Staff. For details such as usage conditions, refer to: <http://www.wul.waseda.ac.jp/>.

<sup>2</sup> When a new university is to be established, the number of books in its library collection is one of the criteria that is reviewed.

<sup>3</sup> The National Diet Library is in a class of its own, as it stores almost all the books and magazines published in Japan.

<sup>4</sup> Already, some books do not have paper card catalogs.

<sup>5</sup> However, note that in many cases these materials can be viewed only from terminals connected to the on-campus network because of contractual agreement.

## 4.1 How to Search Information

### 4.1.1 Selecting Databases

“Search (retrieval)” here means to find the information you are looking for from data stored (in databases)<sup>6</sup>.

For example, in the old days when you searched for a book, you flipped through card catalogs or walked around bookshelves. But nowadays as varied kinds of data have been digitized, you can find books which contain the information you are looking for by simply typing a few keywords.

When you search for a book by typing keywords, if the amount of data stored is relatively small, you will not get so many results from your keyword search. So it would not take much effort from you to go through the results. However, searching a huge database with a general keyword will generate an overwhelming amount of search results. For example, if you search the Waseda University Information Network (WINE) with the keyword “Waseda,” you will get 7,037 results<sup>7</sup>. You would not want to review all these results.

However, the databases available and the way you use them will vary from case to case.

There are free databases open to the public and paid databases. The students and Faculty and Staff of Waseda University can use some paid databases free of charge. We can also divide databases into three groups: exclusively on-line information sources (including Wikipedia, which will be mentioned later, and Web pages), information sources available both on-line and in hard copy (including newspaper articles and government publications), and information sources that are primarily only available in hard copy (books and academic journals).

In the past, it has required a great amount of effort to search a source of information that is only available in hard copy, but systems like WINE and various research paper databases help you retrieve printed literature easily.

This section shows you information searching using an Internet search engine (Google) as a free database, and describes the general ideas behind information searching. This section also introduces you some of the databases available to Waseda University students. Some databases can be used only in designated places such as Faculty Library Rooms. You may want to check to see if the databases you want to use are available, using the Waseda University Library Reference Service<sup>8</sup>.

Early search engines were often able to handle only Web documents, but today you can search across different types of files, such as Web documents, PDF, MS Word, MS Excel, image, and video files, simply by typing in keywords.

You should also know that, especially lately, search engines tend to give priority to microcontents<sup>9</sup> such as consumer-generated media (CGM), typified by blogs. A typical CGM site is Wikipedia<sup>10</sup>. Wikipedia is a very useful site. When you write a paper or a report, you may refer to Wikipedia to start off your research; however, in general, you must not develop your argument based on the articles in Wikipedia.

This prohibition is not exclusive to Wikipedia. You cannot use even the Encyclopedia Britannica for the same purpose. You can make quotations for your paper or report only from primary sources and articles written based on the primary sources.

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<sup>6</sup> A “database” is a collection of various data managed in such a way that the data can be easily reused for searching, filtering, updating, and other purposes. In addition to databases created on a computer, we can say a library is also a database.

<sup>7</sup> Results as of May 2007.

<sup>8</sup> Visit: <http://www.wul.waseda.ac.jp/CLIB/ref-j.html> (Japanese Only).

<sup>9</sup> Items of Web content which individually contain small amounts of information but exist in large numbers which rapidly grow are collectively called “microcontents.”

<sup>10</sup> [http://en.wikipedia.org/wiki/Main\\_Page](http://en.wikipedia.org/wiki/Main_Page)

Because of their nature, it is difficult for printed books to be leading edge. But you can obtain the latest and highly reliable information from specialized academic journals<sup>11</sup>.

Some Internet search engines, such as Google Scholar<sup>12</sup> and Google Books<sup>13</sup>, provide search services from highly reliable information sources. In other words, the quality of databases vary widely. Writers and readers are the ultimate judges of the quality of these databases.

As just described, the three important elements of information searching are: (1) selection of database, (2) efficient search, and (3) reliability of information sources as search results.

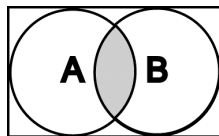
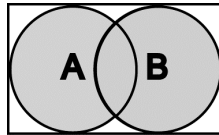
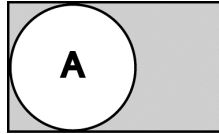
### 4.1.2 Boolean Operators

Regardless of what kind of database you search, generally what you do is to specify your conditions, extract information as search results from a collection of data, narrow down your search results, and further sift through the results to find the information you want. Therefore, this section explains how to narrow down information from a collection of data.

Here we explain Boolean logic, which views a certain collection of data as a set, and obtains a new set from the old set by carrying out operations on the latter. That may sound complicated, but what the preceding sentence means is by using a little ingenuity when you specify a few keywords, you can make your search more efficient.

See Table 4-1 “Boolean Operators (Logic Operators).” “AND” means by adding a keyword you can narrow down your search. Conversely, “OR” means by adding a keyword you can expand your search. “NOT” can exclude a certain set from search results.

Table 4-1: Boolean Operators (Logic Operators)

Operator	Description	Venn Diagram (Euler Diagram)
AND	Logical multiplication: Includes both search terms.	
OR	Logical addition: Includes one or both of search terms.	
NOT	Negation: Includes one search term but not the other.	

There are also NAND, XOR, and NOR operators. Look them up if you are interested.

Let us try this search method using Google as our search engine. Access <http://www.google.co.jp/> using a Web browser. As an example, we will search for information about hot springs here.

First, let us try AND. In Google, the number of search results is displayed on the upper right portion of the window. Add keywords as shown below and see how many search results you will get.

<sup>11</sup> Even in that case you must critically examine the validity of an argument.

<sup>12</sup> <http://scholar.google.com/intl/ja/>

<sup>13</sup> <http://books.google.com/>

When you enter two or more keywords, separate them with spaces.

- “Hot spring”
- “Hot spring” “Day trip”
- “Hot spring” “Day trip” “Outdoor”
- “Hot spring” “Day trip” “Outdoor” “Train”

These four searches conducted in February 2008 (in Japanese) returned “78,400,000,” “1,210,000,” “783,000,” and “113,000” results, respectively. You can see that as you increase the number of keywords, the number of search results decreases. Next, let us try OR. Specify the keywords as follows.

- Hakone
- Hakone OR Kusatsu

When using Google, “OR” needs to be capitalized. As you increase the number of keywords, the number of Google search results decreases, contrary to expectations. It seems that Google guesses that searching two keywords at the same time must mean the user wants to visit a hot spring in Hakone or Kusatsu, and narrows down the information. Databases mentioned below such as WINE do not carry out such “smart” processing but process information instead “mechanically.” So as you increase the number of keywords using OR, the number of search results almost always increases.

Finally using NOT, specify your keywords as follows.

- “Hot spring”
- “Hot spring”-Hakone

Place a “-” (minus) sign before the keyword you do not want to include. This operation excludes the search results which contain the keyword “Hakone.” Check to see that the number of results decreases.

## 4.2 Academic Information Resources and Actual Searching

In this section, we will cover academic information resources and retrieving information from them. These academic information resources are not necessarily available to people outside the university. This section introduces you some examples of searching the Waseda University Information Network (WINE) system, as well as databases you can mostly use free of charge.

### 4.2.1 WINE-OPAC

Online Public Access Catalog (OPAC) is a system which allows you to search Machine Readable Cataloging (MARC), a digitized catalog, from a terminal connected to the network (or LAN). The version of OPAC accessible from a Web browser is sometimes called Web OPAC. WINE, an integrated academic information retrieval system, is installed in Waseda University Library, and WINE-OPAC, a part of WINE, is a Web version of OPAC widely available on and off campus. Anyone can access WINE-OPAC via the Internet using a Web browser. In this section, we will search using WINE-OPAC. Now, access the top page of WINE-OPAC (<http://wine.wul.waseda.ac.jp/search/>).

Here we demonstrate TITLE Search and KEYWORD Search.



Figure 4.1: Waseda University Information Network System

## Search Window

WINE - Waseda University Library Catalog

**タイトル検索**

[\[最初に戻る\]](#)

\*入力域内をクリックした後、タイトルを入力し<Enter>キーを押して下さい。

Figure 4.2: TITLE Search

**Search by book title:** “TITLE Search” (see Figure 4.2) searches for book titles beginning with your keyword. For example, you type the keyword “温泉 (hot spring)” and search, book titles such as “温泉 (hot spring)” and “温泉：歴史と未来： (hot spring: history and future:)” will return as search results.

When you have too many search results, you can click the “**Limit/Sort Search**” button and add a keyword to narrow down the selection or add more book information to limit the scope of your search.

**Keyword search:** “KEYWORD Search” (see Figure 4.2, p. 56) allows you to search for books by freely entering keywords. Note that entering the keyword “温泉 (hot spring)” returns a different set of search results from TITLE Search results.

You can use Boolean logic as we discussed earlier when using the KEYWORD Search. For example, to search for books using the keywords “hot spring” and “Hakone” or “Kusatsu,” type: “温泉 (hot spring) and (箱根 (Hakone) or 草津 (Kusatsu)).”

Since WINE offers many other ways to search, choose the one that is best suited to your purpose.

### WINE: キーワード検索

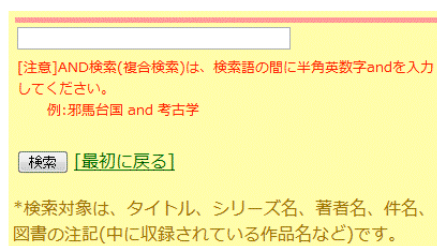


Figure 4.3: KEYWORD Search

## 4.2.2 Other Academic Information Resources

**Library collection search:** Waseda University boasts a vast library collection. But since it is impossible for Waseda University alone to collect all books, you may need to search the library collection of other universities and request ILL or a partial copy of materials when necessary. In such cases, you will use the OPAC and Webcat systems instead of WINE. Here, we introduce some of these systems to you.

- National Diet Library Online Public Access Catalog (NDL-OPAC)  
OPAC of the National Diet Library  
<http://www.ndl.go.jp/en/index.html>
- Z39.50-based OPAC cross search  
Cross search based on a standard protocol Z39.50 established by the American National Standards Institute  
<http://wine.wul.waseda.ac.jp:211/z39m/>
- NACSIS Webcat  
A catalog search system participated in by over 1,200 universities and other institutions  
<http://webcat.nii.ac.jp/> (Japanese Only)
- NACSIS Webcat Plus  
Supports associative searching which allows you to perform searches using expressions similar to natural language; effective when your keywords are ambiguous  
<http://webcatplus.nii.ac.jp/en/>
- Google Scholar  
A search engine specializing in scholarly literature  
<http://scholar.google.com/>
- Scirus  
A scientific search engine provided by Elsevier  
<http://www.scirus.com/>
- NII Scholarly and Academic Information Navigator  
A service which provides information focusing on Japanese scholarly papers  
<http://ci.nii.ac.jp/en>

- DSpace@Waseda University  
Stores and publishes scholarly information, such as academic papers and dissertations, written by the researchers of Waseda University  
<http://dspace.wul.waseda.ac.jp/dspace/index.jsp>
- Books.or.jp  
“Books.or.jp is a book search site where you can find books published in Japan that are currently available”  
<sup>14</sup><http://www.books.or.jp/>

In addition, there are various paid services such as JDreamII, Web of Science, and SCOPUS.

Waseda University Library subscribes to numerous services, which are available free of charge to all members of Waseda University. You are recommended to access the “Waseda University Library’s Access to Academic Information” page (<http://www.wul.waseda.ac.jp/imas/index-e.html>) and check what kinds of databases are available.

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<sup>14</sup> A quotation from the top page of <http://www.books.or.jp> (translated from Japanese)