

Academic Literacy

Utilizing Knowledge in Information Environments
– For Your University Education –

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Introduction

This book is a textbook for use in class for the purpose of acquiring the minimum required level of common knowledge and manners which are minimally required for study in specialized academic fields with the aid of information environment such as computers and networks. “Literacy” means reading and writing, skills which are vital for civilized living. The authors have decided to call the basic knowledge required in academic environments, “**academic literacy**.” Through this book, you will learn about academic literacy regarding the writing of reports and papers and the developing of information dissemination skills with the aid of information environments, as described below.

Master Your PC as a Tool

In order to make full use of computerized environments, you must have the basic knowledge you have learned in high school about programming, information science, and information ethics; but that is far from sufficient. For example, you need to know how to set up a newly purchased PC in order to use it for your study and research. To set up a PC, you need to have some knowledge of its hardware, OS^a, and the way of connecting it to a network. To use a PC safely, you also need to know about computer security and how to back-up data. This book will describe software applications^b required for your study and research in order to utilize information environment in relevant chapters.

- a* This book is written for Microsoft Windows, which will very likely be used on the majority of your PCs you will use; however, the authors prefer in fact to use Linux, FreeBSD, and Mac OS.
- b* As far as we could, we have chosen free applications in consideration of your finances. Some applications may be preinstalled on your PC. Many of the operations of such pre-installed software are similar to the software we have chosen, but since the main purpose of this book is not to explain how to use software, please refer to various operating manuals that are widely available for more information.

Learn the Rules You Must Observe

Along with the progression of the spread of IT, various problems involving copyright have also arisen. Some of these problems have been seen on campus, too. One example is the copying of other people’s reports in their entirety. A report assignment is intended to make students think deeply about one topic through the writing of a report. As these days reports are created in a computerized environment, some students simply change the name of a report written previously by another student, add a few minor changes and submit it as their own work. Some others create virtually a whole paper by copying and pasting text from the World Wide Web (the Web). Students will learn nothing this way, and moreover, they are committing plagiarism. If a student is caught committing such an act^a, not only the student will fail to make the grade but also he or she may be subject to serious penalties such as suspension or expulsion from the university (regrettably, this has happened on several occasions). Since you are allowed to incorporate others’ works into your work if you follow certain rules, you should learn about such rules: namely the rules regarding copyright.

In addition, this book will show you various problems concerning information ethics, which you may get involved in as a result of being a little careless.

- a* Research into a plagiarism detection system combined with a search service is advancing. It will not be long before a fraudulent act like those described above will be spotted immediately.

Learn to Gather Academically Significant Information

You may have some experience of research activities in an interdisciplinary learning class or group work and presentation activities in an information-related class. At the time, did you pay proper attention to copyright, such as by citing quotations properly? How much consideration did you give to the scholarly accuracy of the quotes you cited?

A vast amount of knowledge has been accumulated at the university. “Knowledge” here means “literature,” such as books, scholarly journals, and online journal databases. Since it is important to study “literature with a solid reputation^a” in the early stages of study in those academic fields which employ a systematic learning structure, Waseda University Library, where an array of such literature has been assembled, is a very useful resource. In the natural sciences, it is no exaggeration to say that the latest researches are published only in scientific journals. These scientific journals are very difficult to find even in large bookstores. The university has been spending a large amount of money continually for the purchase of such “knowledge.” For example, the book budget of Waseda University runs up to about 1 billion yen^b annually. You may also request that a book, which is not in the library, be purchased. This book, *Academic Literacy*, will show you how to handle this accumulated “knowledge,” or literature, by making effective use of computerized environments. You are studying in a privileged environment. Do you still rely only on older student’s reports, Web pages, or books and (nonacademic) magazines easily available from general bookstores for information?

^a These books are often used as class textbooks.

^b Based on FY 2005 annual closing of accounts http://www.waseda.jp/zaimu/main_kessan/keisan_05/syouhi05.pdf. Note that, however, not all of this amount is spent by Waseda University Library.

Learn about Logically Convincing Data Processing

One of the effective ways for your reports and papers to be convincing to readers is for you to collect, process, analyze and present reliable data. However, such data analysis requires a certain methodology you have to observe. In addition, your analysis is expected to have a certain university-level quality. For example, some students are so nonchalant that they simply make a pie chart or line graph from the results of a survey and use it in their bachelor’s theses. This is completely devoid of persuasiveness. Even if you are a liberal arts or humanities student, or even more so because you are, it is important for you to know about statistical data processing. This knowledge will be a strong selling point for you in the future.

As a first step, this book will show you a way to organize your data using spreadsheet software^a. Note that although spreadsheet software is useful, you should not use it as a tool for numerical calculation. This book will explain why not, and introduce you a few software applications for numerical calculations you can use free of charge.

^a You should take a statistics class separately and learn about this. This book focuses on basic statistical processing which serves as a stepping stone to more sophisticated statistical processing. In addition, this book provides you with some idea as to what you can find from data analysis in general and what you need to learn in university for this purpose.

Learn about Basic Methodology of Writing Reports and Papers

You may have practiced writing short essays as part of preparing for university entrance examination. However, writing short essays and writing academic papers are two essentially different things. Writing a short essay requires skills to read given data and write logically about a given theme within a limited amount of time. On the other hand, writing an academic paper requires reference to a considerable amount of literature as described below.

Although the way academic papers are marked and their nature greatly varies from one academic field to another, their structures (setting up a hypothesis and comparing the result of a survey or an experiment and its interpretation to those described in various other literatures to draw a conclusion) are much the same. Bachelor's theses too must have the same structure.

Furthermore, the academic paper style is fixed in each academic field, or at each journal, you submit your paper to. New students are prone to the pitfall of applying the idea "conformity hinders original thinking" to the style of their academic papers. A progressive and original paper contains progressive and original ideas, but the style must conform to the rules. Otherwise, even if it contains progressive and original ideas, your paper will not be accepted.

Since computers are good at organizing and storing information and outputting such information in a uniform format, they can be very helpful when writing a paper. By using a computer and a network with suitable software, you can relatively easily manage literature and generate a bibliography, considered to be the two most burdensome tasks in paper writing. This book will introduce you some of the most widely used software applications and explain how to manage literature using them (in particular, how to construct a bibliographic information database and create a bibliography when writing a paper).

Learn about Techniques of Academic Information Dissemination (Presentation and Web Content Creation)

Papers are not the only means of academic publication. The giving of presentations at academic conferences or symposiums are also important occasions.

Slides and an overhead projector have been popular tools when giving presentations at academic conferences^a. However, lately, along with the spread of projectors that can be connected to PCs, presentations using a projector and presentation software are fast becoming mainstream. Therefore, you should learn to make full use of these tools to help your audience better understand your presentation. Today, this method of presentation is an indispensable information dissemination skill not only in the academic world of but also in the worlds of business, education, and journalism.

The widespread dissemination of information used to be an exclusive function of the mass media. However, because of the development of information networks and the spread of video equipment, anybody can disseminate information, including videos, through the Internet today. This book will explain how to disseminate information using the World Wide Web, providing a basis for all other forms of information dissemination, while considering the academic aspects we have been discussing.

^a Some academic fields only use summary presentations or presentation materials.

The above matters are all fundamental matters you must learn by the time you write your academic papers. This knowledge will work more effectively if you combine it with a computerized environment. Human activities like learning and studying are analog activities, but the authors believe using a computer to aid with them is more effective, efficient and fun. We would be pleased if this book helps you utilize the information environment in the university and supports your studying.

Acknowledgement

This book is designed to help students “efficiently acquire basic skills and methodology commonly required in the academic world, especially basic knowledge about writing papers, through exercises involving the repeated handling of academic information in information environments which allow the efficient processing of computerized academic information” in a content-oriented information education class, “Basic Information Seminar,”⁵ provided by Waseda University Media Network Center (MNC). During the writing of this book, the following people provided us with guidance and suggestions in regard to curriculum formulation and content: MNC Curriculum Committee Working Member and former MNC Vice-Director, Advisor to the Dean for Academic Affairs (at the time of publication), Faculty of Science and Engineering Professor Katsuhiko Kakei; former MNC Associate Dean for Academic Affairs, Faculty of Law Professor Yasunari Harada; MNC Associate Dean for Academic Affairs, Faculty of Political Science and Economics Professor Takenobu Takizawa; former MNC Associate Dean for Student Affairs, Faculty of Commerce Professor Yoshitaka Takahashi; and Mr. Takuji Ueda, Mr. Masaru Takahashi, and Mr. Takahisa Tanitsu. It is easily imaginable that this book would not have been possible without these contributors’ generous guidance and assistance. We would like to express our deepest gratitude to them.

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⁵ Around 1996, Waseda University shifted its curriculum from previous “information processing” education, which was focused on programming by a small number of interested students, to content-oriented information education which targets a large number of students. Back then, the class had been called “Introductory Information Processing,” but in 2003 the name was changed to “Basic Information Seminar” which is more suitable considering that it is a “computerized basic liberal studies seminar.” Except for the School of Science and Engineering, School of Human Sciences, and remote campuses which have own information educational curriculum, nearly half of all Waseda University undergraduate students are taking this class or classes with the same curriculum as it.

⁶ <http://www.decode.waseda.ac.jp/> This book’s support site <http://www.ronbun.info/> is also run in association with DECODE.

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