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INFORMATION LITERACY INSTRUCTION AT ZHEJIANG UNIVERSITY: A CASE STUDY

Regina P. Entorf
Fred Y. Ye
Wittenberg University
Zhejiang University

Introduction
This article is the result of an investigation undertaken while one of the authors was a visiting scholar during the spring of 2004 at the Zhejiang University Department of Information Resources Management, Hangzhou, China. The other author is Chairman of that department. This preliminary study presents a brief overview of information literacy instruction in China and then focuses on how it is actually carried out at one large, representative university.

Literature Review
Information literacy instruction in China has not received much notice in American publications. A search of Library Literature reveals few recent studies of information literacy (IL) in China. Indeed, only five appeared to be relevant, and three of these are in Chinese; two in English. Of the Chinese articles, one published in 2001 by Chang and Shyu concerns IL instruction for elementary school student teachers in Taiwan. Two studies in 2001, by Yueh and Hsiao and Wang and Tzeng, involve IL instruction for elementary and high school students and for pharmacy students respectively.

Two English-language articles directly concern information literacy instruction. A 1999 article by Sun and Rader describes the IL environment at the transitional time when CD-online searching had come to the fore, and they go on to focus on IL instruction at Tsinghua University Library in Beijing. A 2002 article by Sun gives an overview of IL education in Chinese academic libraries. A sixth, related article by Wu and Huang, appearing in 2003, gives an update on the status of academic development in China, thus providing a helpful view of the information context in which academic information literacy programs operate.

Profile of Zhejiang University
With 107 years history, Zhejiang University is a renowned university in China. It is located in scenic Hangzhou, the capital of Zhejiang Province. Comprised of six campuses, some of them recently amalgamated, the university has 42,278 students, of whom 26,504 are undergraduates and 15,774 are graduate students (2003-2004 data). There are 3,308 faculty and 5,156 staff altogether. A master planning document calls for five of the campuses to move their functions to the sixth, or New Campus, by 2008. Currently, the University employs a calendar of two semesters per year plus a summer session that runs July to August.

Overview of the Zhejiang University Library System
The Zhejiang University library system boasts five libraries at present, with a total of about 5,500,000 titles. (When the six campuses combine it is planned that there will be 5 libraries, all located at the New Campus.) Among the electronic resources available are e-book databases, including NetLibrary, that include over 100,000 titles, mostly in Chinese. The library system gives access to full text of over 8,000 English-language and 9,000 Chinese-language journal titles online.

29
They subscribe to more than 200 databases as a member of CALIS, and plan to add more databases next year. They are also the Chinese leader of the Million Book Digital Project, which involves scanning core documents, beginning with dissertations. Students can access the library catalog and databases remotely, using the VPN system. It is estimated that about 90% of students have their own computer in their dormitory rooms.

There are 77 academic departments within 21 academic schools in the university. Each academic school or department has a small subject-specific library, mainly containing current journals. Most schools or departments pay for these materials and manage the resources; only mathematical journals in the school of science are paid by the university library. Of the total university library staff of 219 at present, 119 have a bachelor’s degree or higher and nine have an MLS or its equivalent. According to American standards, only the nine reference librarians would be qualified to provide professional-level information literacy instruction to students and faculty, but twenty-nine Zhejiang University library staff actually do provide IL instruction.

**Information Literacy Instruction in China**

Since 1983, in Chinese university libraries, librarians have developed a course called Document Retrieval. This is a standard offering in Chinese universities. It is the main way of delivering information literacy instruction to students. Over the past 20 years, Chinese librarians have compiled and published many textbooks on document retrieval, and information retrieval. After 1995, while the Internet and Web developed all over the world, CERNET (The China Education and Research Network) was established. With that tool, information literacy instruction changed from a print-based to a computer-based pattern, or more specifically a network-based pattern. A great many information resources were digitized in academic libraries, so more and more information literacy instruction paid attention to online operations. Academic librarians, along with government colleagues, met together during the years 1985-1995, under the auspices of a government organization named Document Retrieval Instruction Committee, belonging to the National Department of Education. This organization is currently not active, due to the fast pace of change in present-day China.

**Information Literacy Instruction at Zhejiang University: General Aspects**

Zhejiang University’s librarians have developed several layers of information literacy education. First, almost all new students get a one-hour library lecture during their first week on campus as part of their introduction to campus life. An undergraduate course called Information Retrieval (Document Searching), consisting of 32 hours of instruction, is offered for 1, 1.5, or 2 course credits. Content includes introduction to abstracts and indexes, how to use the Internet search engines, how to search using DIALOG, and how to construct a smart search strategy which applies advanced information retrieval skills. There is also a graduate course, offered via network, with CAI courseware. The undergraduate and graduate course Information Retrieval is controlled and managed by the Department of Information Resources Management. Further, when a new database is introduced, an introduction to it is offered on the library web site. Lectures are also given every Friday afternoon on various specific information retrieval topics at the Yuquan campus main library. Finally, instructions are available online for most databases. At this point, there is no information literacy linked to individual courses or to individual course assignments as there commonly is in the United States. Rather, the approach can be characterized as both general and consistently applied.
Purpose and Description of Questionnaire Completed by Selected Zhejiang University Students
In order to get a view of student response to this program, we developed a questionnaire in the spring of 2004 that was given to 52 students. Almost all of these were undergraduate students, some taking one-credit English courses, and some in the Department of Information Resources Management. While this is neither a random sample of students nor representative of students at all six campuses, it does provide some students' views of how they learn to use library resources at Zhejiang University.

The questions were meant to get some idea of what kinds of instruction students had come in contact with and how competent they felt using library—especially online—resources.

The questionnaire was handed out during regular class time. Effort was made to make sure that students understood all the questions. They were told that if they did not understand a question, they could ask for clarification in Chinese, and that they could also answer the questions in Chinese if they wished. Some questions were asked in order to get clarification of questions, but no one chose to answer in Chinese. Accordingly, some of the answers are required some interpretation and a small number could not be understood, as in the response, "The library resources are not too enough." However, in general responses provide some clear results.

Results of the Questionnaire
The great majority of students surveyed were third-year undergraduates, but also included four seniors and two graduate students. Majors included Library Science or Archives Management (32 students), Computer Science or Engineering (9 students), History (7 students), Chemistry (4 students), and Journalism (1 student). Two-thirds of the students surveyed knew that the University libraries provide instruction in how to use the libraries and in how to use research databases. One third of the students said that they had attended one or more of such sessions, with the largest number having attended just one or two. The most popular session topics were stated to be Information Retrieval and How to Use the Library. Sessions on specific topics included history, patents, chemistry, and Books Worth Reading.

Students were asked how many term papers they had to write in the past year, as a means of gauging how much library research they may have had to do. A research paper was defined as one which required that they use books or journal articles as sources. Results can be seen in as follows Table 1:

<table>
<thead>
<tr>
<th>Number of Students</th>
<th>0 Papers</th>
<th>1 Paper</th>
<th>2-3 Papers</th>
<th>4-5 Papers</th>
<th>6-9 Papers</th>
<th>10+ Papers</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=42</td>
<td>5</td>
<td>5</td>
<td>11</td>
<td>13</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 1: Number of Term Papers Students Reported Writing in the Past Year
Another question asked students how many research databases they had used in the past year. Results appear below in Table 2.

Table 2: Number of Students Reporting Use of a Research Database in the Past Year

<table>
<thead>
<tr>
<th>Number of Students</th>
<th>0 Databases</th>
<th>1-3 Databases</th>
<th>4-5 Databases</th>
<th>6-9 Databases</th>
<th>10-20 Databases</th>
<th>20-40 Databases</th>
<th>100+ Databases</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=38</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>5</td>
<td>11</td>
<td>11</td>
<td>2</td>
</tr>
</tbody>
</table>

There were two open questions. The first one asked, “The last time you used a research database, what did you wish you knew how to do better?” The four Chemistry majors all responded that they had no trouble, but only one other student, an information engineering major, expressed complete satisfaction. Many of the others listed more than one area they wished were better. Responses fell into the following pattern:

- Would like to be able to use keywords more precisely: 12
- Want specific changes to databases or systems (e.g. want newer information, a better classification system, the option to do more advanced searching, more online instructions, or hopes the library has enough information on their topic): 11
- Would like to be able to construct a more precise search strategy: 9
- Want the process to be quicker and easier generally: 9
- Wish they themselves knew more about their research topic going into the search process, or that they had a more precise research aim: 5
- Want more databases: 4
- Want to be able to copy articles easily: 2
- Wants a lecture on how to use a database: 1
- Were generally satisfied: 7

The second open question concerned how students learned how to use library research resources. Responses, summarized in Table 3, also formed a clear pattern.

Table 3: The suggested ways for learning how to use library research resources

<table>
<thead>
<tr>
<th>Suggested way</th>
<th>Number of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>By teachers</td>
<td>20</td>
</tr>
<tr>
<td>By classmates</td>
<td>17</td>
</tr>
<tr>
<td>By myself</td>
<td>14</td>
</tr>
<tr>
<td>By online instructions</td>
<td>14</td>
</tr>
<tr>
<td>By librarian</td>
<td>6</td>
</tr>
<tr>
<td>By books</td>
<td>5</td>
</tr>
<tr>
<td>By library resources</td>
<td>3</td>
</tr>
<tr>
<td>By information research class</td>
<td>2</td>
</tr>
<tr>
<td>By newspaper or magazine</td>
<td>2</td>
</tr>
<tr>
<td>By BBS (Blackboard System)</td>
<td>1</td>
</tr>
</tbody>
</table>
Discussion

Zhejiang University students typically use research databases as a matter of course, as a usual part of student life. In using the databases, they were fairly confident, but had trouble using keywords to yield the exact results they desired. A significant number mentioned a related desire to be able to formulate better search strategies. If these two categories are combined—and it is difficult to determine from this brief questionnaire the limits of each category in students' minds—there is an expressed need to understand how to use the databases more effectively. Still, several students expressed satisfaction with their search expertise.

Students learn to use library research databases in a combination of ways; many mentioned several sources of help. Professors/teachers were listed more times than any other source of help, and some Library Science/Archives students said they have a course that teaches them how to use the databases. The next largest category is Classmates, followed by Myself and Online instructions. Some students specified that each database features instructions on how to use it, and so there was much (but how much is uncertain) overlap between the Myself and Online instructions categories. These online instructions were not overtly perceived as being provided by the library. Indeed the librarians and library resources were perceived as being well down the list of agents of learning how to use the library resources, though the number of people mentioning them was still significant.

Conclusion

Students at Zhejiang University know that the library offers instruction in information use, but relatively few say they attend the sessions. This study focused on learning how to use research databases, however, not on how to use information resources or the university libraries generally, so the questionnaire results may still be consistent with the fact that the librarians offer instruction to all new students. The students surveyed generally expect to figure out how to operate databases by themselves or with the help of online instructions, instruction from professors, or help from their peers, not with help from librarians. Students wish they were more skilled at putting together an effective search strategy, including being able to choose appropriate keywords, but no great distress was expressed about the research process either. Indeed, even expert searchers understand that finding the right words for a subject one knows little about (as will be the case of most students starting to research a new topic) can be a challenge. We can conclude, then, that more information literacy instruction is needed, perhaps specifically with individual classes, so that the instruction is mandatory, not voluntary as at present. Of course, that might well require a different library staffing pattern than is feasible at present. Zhejiang University has apparently done a good job of making students aware of opportunities to learn more about specific databases.

This brief and preliminary study shows a representative case about how Chinese university students learn how to use information resources for research.
References:


Appendix: Questionnaire about Information Literacy Instruction at Zhejiang University Libraries

1. To your knowledge, do the libraries at Zhejiang University provide instruction in how to use the University libraries?  Yes___ No___
   Instruction in the use of research databases?  Yes___  No___

2. Have you attended any information literacy instruction sessions offered by the University Libraries?  Yes____ No____
   If so, how many sessions have you attended?
   On what topic(s)?

3. How many research papers have you had to write in the past year?

4. What is your level in school?
   First year undergrad._____  Second year_____
   Third year____  Fourth year___
   First year graduate student____
   Second year graduate student____
   Other (specify____________________)

5. What is your major subject?

6. How many times in the past week have you used a research database?
   In the past month?
   In this school year?

7. The last time you used a research database, what did you wish you knew how to do better?

8. Describe how you usually learn how to use library research resources:

If I may contact you to ask some follow-up questions (if necessary), please write your email address:

😊 Thank you! 😊