### The ISI Lecturer Program:
### A Pragmatic Approach to Teaching
### Students About Information Services

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Earlier this year I discussed how an ISI® survey had discovered a surprising lack of awareness of *Current Contents*® among many graduate students.[1] This is symptomatic of a more general and widespread problem in science education: a shortage of effective programs to teach students about the availability and use of information tools.

Most faculty members and librarians readily agree that students need considerable information retrieval skills in order to pursue careers in science. In my opinion, the inability to convert this conviction to effective instructional programs stems largely from jurisdictional confusion. The "subject" content of most courses is the responsibility of the science faculty, while information tools are in the librarian's domain. Unfortunately, the twain never seem to meet. The questions of who should teach science students about the information tools they will need and how, where, and when this instruction should be given are largely unresolved.

Most professors have their hands full just getting through their course subject material in a semester. Since most faculty members have no formal training in the use of information tools, they are hesitant to instruct others about them. Librarians do try to help, but their time is limited. Even a well designed library tour at the begining of a semester is not much help to a student who comes up against a real search problem two months later.

Some independent efforts to correct this situation have come to my attention. In a class given by W. R. Klemm of Texas A&M University, each student is given an older publication on a topic in physiology and told to trace in the *Science Citation Index*® the articles which have cited the older paper, articles which cited those articles, and so forth. They then write abstracts of the articles they find. According to Dr. Klemm, the class members feel that at the same time they are learning about physiology and gaining an understanding of the impact of earlier research on more recent work, they are also learning how to use an important reference tool.[2]

S. M. Plaut of the University of Maryland School of Medicine conducts seminars in research methodology that give students hands-on experience with various information services, including *Current Contents* and

the *Science Citation Index.* The seminars are mandatory for certain students in child psychiatry, behavioral pediatrics, school health, and adolescent medicine and are elective for medical students, faculty, and residents. Plaut points out that once they have seen *Current Contents,* almost all of the seminar participants *ask* to be put on the routing list for it.[3]

A systematic approach to student literature searches was recently described by John MacGregor and Raymond G. McInnis of the Wilson Library, Western Washington State College.[4] In addition to discussing the efficient use of encyclopedias, reviews of research, citation indexes, abstracts, and card catalogs, their approach to teaching library research provides students with a general understanding of constructing bibliographic networks.

At the University of Arizona, all graduate students in the Department of Plant Pathology are routinely included on the routing list for *Current Contents,* according to Stanley M. Alcorn and Linda White. Further, all graduate students are encouraged to enroll in a for-credit course called "Information Sources for Agricultural Scientists." The course, which meets once a week, is designed to "orient students to current, standard science and government reference tools and to new computer-based information systems which are accessing scientific and technical information." Dr. White was kind enough to send me the course outline, and I was so impressed with its balanced and compre-

hensive approach that I have reproduced it here (see p. 7) as a guide for others who may wish to start similar programs.

Unfortunately, creative programs like those mentioned are the exception, not the rule. So while continuing to do its part to encourage a more general awareness of information tools and resources, ISI has also instituted a program that can provide some immediate, specific help. In late 1975, we created a new position which we called the ISI Educational Lecturer. This was in addition to our field representatives, who are also competent lecturers. Originally, the Educational Lecturer's responsibility was to instruct library and information science students in the uses of ISI services. At the time, we believed that the most pressing need was to make sure that future librarians would know how to use our services when students and faculty asked about them, or when they were confronted by search questions which our services could handle effectively. We felt this was necessary because we knew that even a few of the "better" library schools hardly gave lip service to the ISI product line—even though most of our services are now regarded as "standard" by experienced librarians and researchers.

Continuing feedback indicates that our initial thinking was correct. Later on, however, we realized that instructional help was needed in science classrooms as well as in library schools. If students don't even know that the *Science Citation Index* exists, they

# Information Sources for Agricultural Scientists: Course Outline

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**Week 1 INTRODUCTION**
a. Growth of literature
b. Special services
c. Computers as the solution

**Week 2. THE RESEARCH LIBRARY—
A TRADITIONAL SOURCE**
a. Interlibrary loan
b. National Union Catalog
c. The new copyright law and the library

**Week 3 BASICS IN INFORMATION
RETRIEVAL/ORGANIZATION**
a. The citation vs. the document
b. What is a document?
c. Conventional indexing
d. Coordinate indexing
e. KWIC and KWOC indexes

**Week 4 AN OVERVIEW OF PRINTED
SOURCES**
a. Indexes are not identical
b. Arrangement affects use
c. How to find an index in your field
d. Effect of vocabulary control
e. Recall versus precision

**Week 5 INDEXES AND ABSTRACTING
JOURNALS**
a. Biological Abstracts
b. BioResearch Index
c. Dissertation Abstracts International and the Comprehensive Dissertation Index
d. Chemical Abstracts
e. Bibliography of Agriculture

**Week 6 COMPUTER RETRIEVAL
SERVICES**
a. Their origin
b. Their products
c. Their access
d. Examples—CRIS, SSIE, AGRICOLA

**Week 7 ABSTRACTING AND INDEXING
PROCEDURES**
a. Criteria for abstracts: writing and reading
b. Comparisons of abstracts
c. Subject headings vs. descriptors vs. keywords
d. The thesaurus and keyword list
e. Indexing by humans or indexing by machines

**Week 8 INSTITUTE FOR SCIENTIFIC
INFORMATION (ISI)**
a. Science Citation Index
b. Social Sciences Citation Index
c. Index to Scientific Reviews

**Week 9 DEMONSTRATION OF ON-LINE
COMPUTER SYSTEM**

**Week 10 INFORMATION HANDLING
TECHNIQUES**
a. File organization
b. Indexing and coding systems
c. Information centers
d. Microform

**Week 11 ALERTING SERVICES**
a. Current Contents
b. Automatic Subject Citation Alerting
c. Chemical Titles
d. Hydata
e. Newsletters
f. SDI from computer bases

**Week 12 GOVERNMENT DOCUMENTS**
a. General documents and cataloging
b. Monthly Catalog
c. Federal Register
d. National Referral Center
e. Monthly Checklist of State Publications
f. Information Resources in U.S.
g. Acquisition and location of documents
h. Congressional Information Service indexes
i. Environmental impact statements
j. National Technical Information Service

**Week 13 COMPUTER "DATA" SYSTEMS.**
a. ENDEX
b. LADB
c. FAPRS

**Week 14 POPULARIZED SOURCES**
a. Newspapers
b. Radio-TV
c. NY Times Index
d. Extension publications

**Week 15 INTERNATIONAL
LITERATURE**
a. FAO and UN
b. AGRINDEX
c. Translations
d. Area handbooks

**Week 16 HOW TO KEEP UP AND
SUMMARY**
a. Systems of literature reviewing
b. Written and oral sources
c. Personal contact
d. Computer conferencing

aren't likely to ask questions about it. So at the start of 1977, we broadened the scope of the ISI lecturer's responsibilities to include instructions for science students, and we increased the number of available lecturers. We now have two full-time lecturers, with a third soon to be added.

Diane Hoffman, our lecturer for the United States and Canada, has been with the program since its beginning. A graduate of Syracuse University Library School, she served for seven years as a reference librarian, first at Syracuse and then at the State University of New York at Oswego. Karen Sandler, our lecturer in Europe, is a graduate of the Imperial College of Science and Technology at the University of London, and formerly an information officer at Beecham Medical Centre. Ms. Sandler's lectures are currently limited to the United Kingdom, Ireland, The Netherlands, and Scandinavia.

ISI lecturers tailor their presentations to fit the needs of the students to whom they are talking. They are prepared to speak on the theory of citation indexing, how to use the *Science Citation Index* and *Social Sciences Citation Index*™, how to assemble an *ASCA®* profile, and the specific applications of our indexes in different subject areas, as well as the use of citation analysis in collection management and development. They can also answer students' questions about when and how to use other types of ISI services, such as *Current Abstracts of Chemistry*™, *Index Chemicus®*, and *Chemical Substructure Index®*. The lecturers select and distribute appropriate printed literature for each audience, and usually include audio-visual aids in their presentations.

Lecturers are provided without charge. If you are interested in scheduling an ISI Educational Lecturer for the fall semester, write Ms. Hoffman at ISI in Philadelphia or Ms. Sandler at our European office.

The ISI lecturer program will not completely solve the problem of teaching science students about information tools. But when you consider that ISI lecturers and marketing representatives deliver almost 1,000 lectures each year, we think that we have taken steps in the right direction. However, our efforts cannot succeed without the help of concerned faculty members. If you teach a science course, I hope you will see that your students get the information they need about information tools.

**REFERENCES**

1. **Garfield E.** What some science students don't know: *Current Contents* can help them during and after their formal education. *Current Contents* No. 21, 23 May 1977, p. 5-6.
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3. **Plaut S M.** Personal communication, 24 May 1977.
4. **MacGregor J & McInnis R G.** Integrating classroom instruction and library research. *Journal of Higher Education* 48(1):17-38, January-February 1977.