

The Purdue Undergraduate Library Research Skills Instruction Program

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Introduction

Undergraduate students arrive at a research-oriented university or college with varying levels of experience and ability in using libraries. The Purdue Undergraduate Library has designed a library instruction program to teach large numbers of undergraduates the essential library research skills needed for completing higher education programs and for lifelong learning. The objectives of the program are to instill a sense of the value of information utilization in an academic and career environment to all students without putting undue demands on limited library personnel resources responsible for the delivery of requested services.

In meeting these objectives, the Undergraduate Library Research Skills Instruction Program has developed several options and components affording self-paced, on-demand interactive assistance from independent study instruction modules and/or library reference assistance. Students can obtain information on how to conduct library research logically and efficiently from a basic self-guided audiocassette tour of the Undergraduate library facility, a comprehensive Research Skills Instruction printed guide, online catalog/index and peri-

odical literature micro-computer-assisted tutorials, classroom presentations, and individual assistance at the Reference Desk. These alternative approaches allow students and faculty to address their information instruction requirements depending on personal interest and motivation, course outline, and time constraints. In this respect, library personnel have flexibility in effectively meeting the heavy demands for service while maintaining necessary management duties and responsibilities.

Program Rationale

The Purdue Undergraduate Library opened in May 1982 with a specific mission to meet the curricular and general interest information and research needs of undergraduate students on the Purdue University campus. The subsequent operational goals and objectives for the Undergraduate Library are based on the premises outlined in "The mission of an university undergraduate library: Model statement" prepared by the ACRL Undergraduate Librarians Discussion Group and the Steering Committee of the University Libraries Section.¹ The development and implementation of all supporting resources and services offered in the Undergraduate Library have reflected

a general appreciation of those factors considered to be most influential in providing a rewarding academic and personal experience for those lower-division undergraduates the library is intended to serve. In this respect, the nature of the large university environment, the specific needs of undergraduates, and the types of staff and services required to effectively meet those needs have been regarded carefully.

The Purdue Undergraduate Library Research Skills Instruction Program exists as a response to the basic mission of the Undergraduate Library and the perceived immediate and long-range information literacy skills necessary for students and professionals in what has been regarded as the Information Age. This program accepts that within the large university research-oriented setting, there are significant numbers of undergraduates with varying levels of experience and ability in using libraries. The program's specific objectives and goals are based on the presumption that:

1. Most first-year students are unaware of the greater part of bibliographic sources available to them and do not yet have the sophisticated research skills needed to effectively utilize the research library's potential.

2. Some students are intimidated by the complexity and size of a large library system and may be reluctant to ask for assistance.

3. The library is a highly complicated system of print and non-print information. User instruction is needed for the student to locate pertinent material(s).

The Undergraduate Library Research Skills Program is a student and instructor end user-oriented program of instruction. It is designed to

enhance student research through integration of effective research methodologies and basic skills essential for retrieval and critical analysis of information. The basic objective of the program is not only to provide students with the specific skills needed to successfully complete assignments, but also to prepare individuals to make effective lifelong use of information, information sources, and information systems.

Program Objectives

The program has identified four areas for which terminal objectives have been determined. Briefly, the four major areas and objectives are:

1. **Information Identification and Definition:** The student understands how information is identified and defined by experts, and utilizes that understanding to determine the direction of his/her research.

2. **Information Structure:** The student is able to identify the substantive and bibliographic structure, function, and use of information sources.

3. **Information Intellectually Accessed:** The student can locate the most appropriate information for his/her needs using a selection of information sources or systems.

4. **Information Physically Organized and Accessed:** The student is able to identify the way collections of information sources are physically organized and accessed.

Instructional objectives within these four major areas are presently supported through library-directed application of the various components of the Library Research Skills Program package. These components consist of the *Undergraduate Library Research Guide*,² a self-guided audio-

tour of the Undergraduate Library, class and Independent Study Center presentations utilizing microcomputer tutorials, and individual assistance at the Reference/Information Desk. In the Spring 1988 semester, an instructor's guide for the program will be incorporated to outline for their use the most effective methodology to integrate the program's components depending on their specific instructional/course objectives.

Instructional Components

Research Guide

Beginning in the Fall of 1985, all English 102/Freshman Composition students were required to purchase the *Undergraduate Library Research Guide*. The guide presents a systematic search strategy applicable for any type of library research or information need. It encourages students to articulate their needs, define their topic, and determine the type of information (general, in-depth, specific) they need. The guide not only assists the students, but also provides accurate library information for the teaching assistants to refer to when teaching the process for writing a research paper.

Audio-Tour

The audio-tour component of the program package provides a general overview of what services and resources are available in the Undergraduate Library and where they are located. This aspect of the program allows students to obtain a floor plan map of the facility to which they can record a numbered location corresponding to information obtained in the taped walking tour. As an alternative to conducting large group tours of the building, this methodology provides a feedback mechanism to the instructor to show that students have familiarized themselves with the

facility. This approach has proved useful in reducing the amount of time previously expended by library staff in conducting tours, minimized disruption for other students using the building, and allowed instructors another hour of classroom instruction they would have used by taking a tour. Students can use their own or library-provided Walkman-type players at a time of their choice.

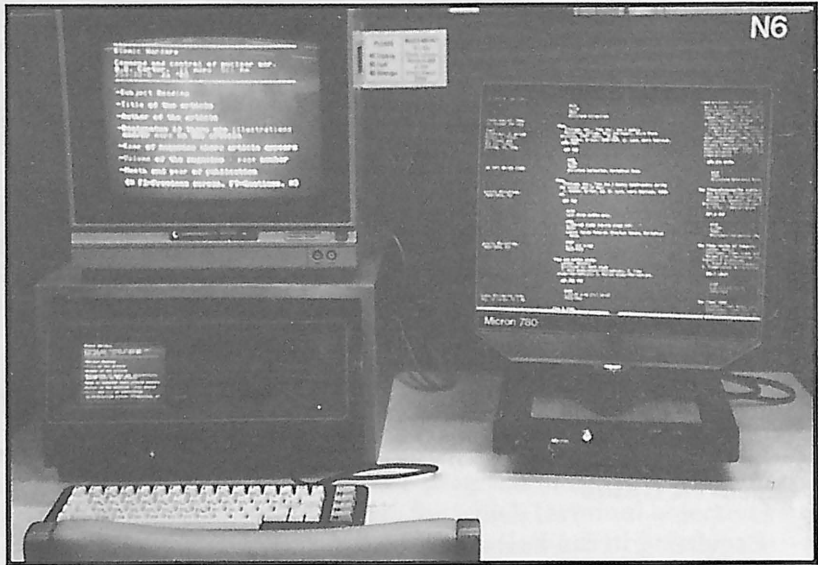
Microcomputer Tutorials

The program's microcomputer tutorials are offered as another means for instructors to gain needed classroom instruction time, but still provide necessary instruction on specific library tools. The microcomputer-assisted tutorials are available to students through the services provided in the Undergraduate Library's Independent Study Center. These tutorials can be utilized by students at any time the center is open and are intended to provide a hands-on training experience in periodical index procedures, and the use of the automated online books and media catalog. These tutorials are designed to allow students to work at their own pace and at their time of need. The content presented in the tutorials relate to material in the *Research Guide*. The *Research Guide* has several tear-out pages corresponding to questions and information presented in the tutorials which can be completed and returned to the instructor as evidence of students' interaction with these programs. In addition, the online catalog tutorial is a simulation of the Undergraduate Library Books and Media Catalog affording instruction on this resource without frustrating other students familiar with search procedures who require access to limited public online terminals.

Reference Service

The Library Research Skills In-

Figure 1.
Microcom-
puter tutorial
workstation
in the Under-
graduate
Library's
Independent
Study Center.



struction Program is further complemented through the availability of individualized assistance offered at the Reference/Information Desk. This service is provided 78 hours a week and it is here that students may receive clarification of a point in the *Research Guide*, additional information about a specific source or the library system in general, or guidance in what their next step in finding information should be.

Classroom Presentations

The librarians in the Undergraduate Library will provide extended in-class presentations at the request of instructors. However, with the incorporation and use of the Library Research Skills Instruction Program, these classroom presentations are now reserved for those classes that have utilized the program's basic instruction components and now require more advanced presentations in specialized research areas.

The Purdue Undergraduate Library Research Skills Instruction Program operates on the fundamental principle that for a student to know how to learn about information within any discipline, he/she must have a process

or framework from which to start. Information-seeking skills provide an advantage which not only impacts on the student's professional training, but provides a competitive edge for future success in the career of his/her choice. The ability to efficiently access, critically analyze, incorporate, and effectively utilize information is a skill with life-long implications. In this, the information age, knowing how to learn is an important element of any higher education curriculum. In terms of information, this program is intended to instill in students a sense that you are only as good as what you work with—the product and process of your efforts are indeed interrelated.

Program Effectiveness

Since the program was introduced in 1984, there have been significant, measurable effects on the overall quality of student research products and library operational objectives. The evidence of the program's impact on student learning has been highlighted through feedback from instructors and students. Comments by English 102 instructors (Appendix I) and students on program evaluation forms sent each semester indicate that

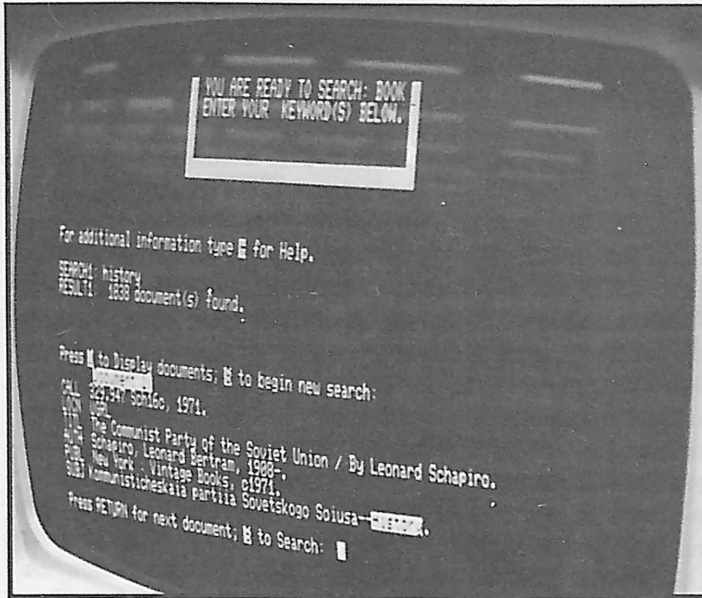


Figure 2. Screen display example from online catalog simulation microcomputer tutorial.

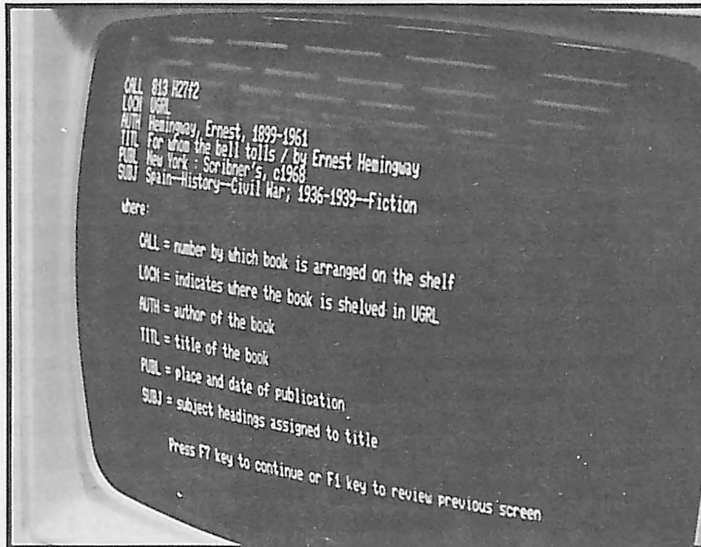


Figure 3. Screen display example of online catalog simulation tutorial describing the parts of a book/document record.

the program has succeeded with some of its goals. Regarding the goals of the program to reduce the students' anxiety and/or frustration in using a large library system and making them aware of how to obtain help when they need it, instructors have commented that:

- the *Research Guide* "... helps to make the library familiar to students and provides them an edge when starting their research projects."
- the microcomputer tutorials "...

are an immense help to the students. Many were totally unfamiliar with the library; the information presented more than gave them the start they needed."

Students have also responded favorably to the objectives and design of the program. There is evidence in the literature regarding the delivery of basic library orientation presentations that students frequently view this instruction as unnecessary, and of little immediate use unless it is received in conjunction with a specific

assignment. The Library Research Skills Instruction Program is specifically intended to circumvent this perception by allowing student alternative, point-of-need library instruction options. Since 1985, approximately 3,800 English 102 students have received their instruction on basic library research using the various components of the program. The program evaluation forms (Appendix II) returned by these students indicated they preferred the instruction component options over the traditional library orientation lecture. In addition, ongoing revisions to the program have increased the student's perception regarding the overall helpfulness of the program's content. During the Summer of 1986, major revisions were made in the microcomputer tutorials to include more hands-on activities. The *Research Guide* was also modified and revised to reflect these changes. Student response to these revisions was positive. In the Spring 1986 semester, 67% of student respondents indicated they preferred the program component options over the traditional library orientation lecture. In the Fall 1986 semester, this figure increased to 72%. The student evaluations also revealed that 52% of the students in the Spring 1986 semester rated the *Research Guide* on the high end of the five-point Likert scale for helpfulness in using the library and/or writing their papers. In the Fall 1986 semester, the figure increased to 65%. Another question on the evaluation form asked how helpful the program was overall. Sixty-one percent of the students in the Spring 1986 semester rated it as helpful, while 72% gave the same rating in the Fall 1986 semester. The audio-tour, evaluated separately, was rated as helpful by 88% of its users. During the last three semesters, statistics kept at the Reference/Information Desk have shown an increase in the number and type of

questions asked, particularly during the concentrated periods of instruction (Fall 1986, 21% increase from previous year; Spring 1987, 34% increase from previous year). This evidence suggests that students have found the program to be helpful, know where they can receive assistance, and are capable of making more effective use of the library and their time spent in doing library research. (See Figure 4.)

The impact of the Research Skills Instruction Program on the operational objectives of the Undergraduate Library has also been positive. Utilizing several approaches (self-guided tour, printed *Research Guide*, classroom and Independent Study Center instruction using computer-assisted instruction tutorials, and individualized help at the Reference/Information Desk) provides the necessary flexibility for the limited number of library teaching faculty to interact with the large undergraduate enrollment. When the program was first implemented, library faculty directed students' interaction with the microcomputer tutorials in a classroom setting. In this respect, English 102 classes were conducted in the Undergraduate Library's instruction room. The students in each class were assigned to smaller group computer work stations, approximately 4 to each station, and directed to work through the tutorials during the allotted class time. Librarians maintained minimal interaction except to answer questions and ensure completion of assignments by the end of the class period. This approach was taken at the program's inception to obtain needed feedback regarding changes to the tutorials which might be necessary for the intended independent study-based delivery of this program component. In one month, three librarians were able to instruct approximately 1500 students in this situation, and still maintain other duties and responsi-

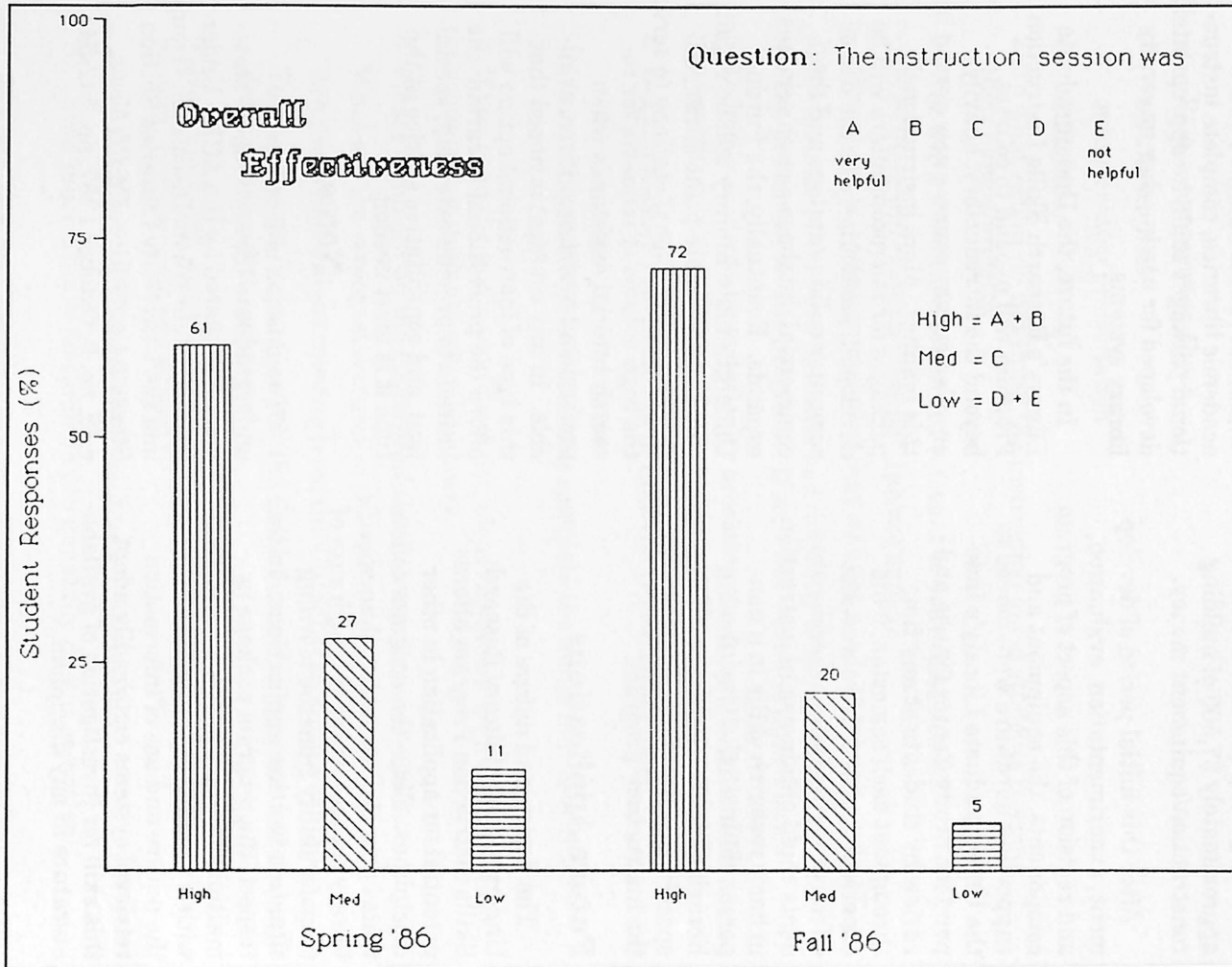


Figure 4.

bilities. In addition, the librarians involved in this approach to instruction indicated a much lower sense of what is commonly called "burnout" based on previous situations where the same number of students were provided a personalized, stand-up lecture during the same amount of time. This level of instruction activity was maintained over two full academic years utilizing microcomputer equipment originally purchased with approximately \$7,500 of building construction/equipment money.

After this initial period of development, experimentation, evaluation, and revision of this aspect of program components, the equipment and supporting hardware were moved to the Undergraduate Library's Independent Study Center for use and review by students at any time throughout each semester. This experience proved there was cost-effective methodology whereby students could obtain useful instruction in basic research skills in a non-personnel-intensive way, freeing librarians to develop more subject-specific, advanced materials to expand the instruction program.

Future Applications

The design and nature of the Undergraduate Library Research Skills instruction Program affords potential for application in other disciplines. Since the program concentrates on a process rather than specific library sources, there is a high rate of transferability from the learning situation to other applications. In this respect, the program package is multidisciplinary in scope. A student with a fundamental understanding of the nature and use of information retrieval systems can readily adapt this skill for investigation of available literature in any discipline.

The experience acquired from the delivery of this program suggests that future program development address all potential user groups of academic libraries, not just the concerns of undergraduates. To this end, there is no homogeneous group of "undergraduates," but rather there exists a diverse student body whose members operate on a continuum of research sophistication. As the student body/audience is probably similar in all academic libraries, complete instructional packages could be appropriately developed for use in other university library systems.

In the future, the Undergraduate Library's Research Skills Instruction Program will expand to courses beyond the introductory, heavily-enrolled survey courses now served in this manner. More instructional packages for microcomputers will be developed, particularly as the use of computer online catalogs and the commercial database search services expands. Eventually, the Purdue Undergraduate Library will be organized to allow more point-of-use, on-demand instructional stations to serve the high volume of requests for research tutorial assistance when professional assistance is not available. In any event, it is hoped that this type of instructional option will afford the professional librarian the latitude to provide extended, specialized, and consultative service at the time it is most needed.

Notes

¹"The mission of a university undergraduate library: Model statement," Prepared by the ACRL Undergraduate Librarians Discussion Group and the University Libraries Section Steering Committee, *C&RL News*, v.48, no. 9, October 1987, pp. 542-544.

Appendix I.

INSTRUCTOR'S EVALUATION FORM

Name (Optional): _____

1. How do you feel about the way in which the Undergraduate Research Skills Program was presented?

Please comment on the —
 serials tutorial
 online catalog presentation
 audio-tour

2. To what extent do you think the instruction aided students in doing their papers/projects?

3. Was the information presented relevant to your class needs?

Was there information missing? (please explain)

Was there information included that was not needed? (please explain)

4. Did you find that your students had difficulty understanding the information presented in this program? If so, what were the difficulties?

5. Did your students have difficulty accessing the tutorials in the Independent Study Center? Yes No If yes, please explain.

6. Did you require your students to take the UGRL audio tour?

yes no

If yes, did you have your students complete the audio tour checklist?

yes no

7. If you used the audio tour checklist, please comment on its effectiveness in acquainting students with the library.

8. Please comment on the *Undergraduate Library Research Guide*

What are the strongest features of the *Guide*?

Are there items/areas missing from the *Guide*? If so, please explain.

To what extent do you feel that the *Guide* has aided your students in doing their projects/papers?

9. How would you describe your own familiarity with the Purdue Library System? (please circle one answer)

very familiar somewhat familiar not familiar

10. How much library research do you generally do in a semester?

Appendix II.

LIBRARY INSTRUCTION EVALUATION

The Undergraduate Librarians would appreciate receiving your comments on the Undergraduate Library Research Skills Program in general and specifically the tutorial programs in the Independent Study Center. If you did not use all the materials we would appreciate your thoughts on the overall program.

Please read the following questions and blacken the appropriate letter on your answer sheet. Read all questions carefully and choose the answer that most nearly reflects your opinion. Use a number 2 pencil. You may write additional comments on the back of the answer sheet.

SERIALS TUTORIAL

1. Information presented in the serials tutorial was —

A	B	C	D	E
easy to understand			difficult to understand	

2. Directions given on the TUTORIAL were —

A	B	C	D	E
easy to understand			difficult to understand	

3. Wording on the TUTORIAL was —

A	B	C	D	E
easy to understand			difficult to understand	

4. To what extent did the tutorial help you to understand how to use *Reader's Guide*/periodical indexes?

A	B	C	D	E
great help			no help	

5. To what extent did the tutorial help you to understand how to use the Union Serials Microfiche Catalog?

A	B	C	D	E
great help			no help	

UGRL ONLINE CATALOG:

6. Information presented in the online catalog tutorial was

A	B	C	D	E
easy to understand			difficult to understand	

7. To what extent did the tutorial help you to understand how to use the online catalog?

A	B	C	D	E
great help			no help	

OVERALL:

8. The amount of information covered was reasonable --

A	B	C	D	E
strongly agree			strongly disagree	

9. The programs were --

A	B	C	D	E
very helpful			not helpful	

10. The practical application of the subject matter is --

A	B	C	D	E
very apparent			not apparent	

11. How knowledgeable were you of library use/research strategies before using the Undergraduate Library Skills Research Program?

A	B	C	D	E
very knowledgeable			not knowledgeable	

12. To what extent was the *Undergraduate Library Research Guide* helpful in using the library/writing your research paper?

A	B	C	D	E
great help			no help	

GENERAL INFORMATION

13. What general area does your major come under?

A	B	C	D	E
humanities/social sci	science	technology	engineering	undecided

14. Year in school --

A	B	C	D	E
freshman	sophomore	junior	senior	other