Process Not Product in Course-Integrated Instruction: A Generic Model of Library Research

Constance A. Mellon

Pre-writing, writing, and editing are viewed as recurring stages in the writing process. Composition courses embodying this view often have a library research component. In order to blend the writing process with an appropriate introduction to the library, the University of Tennessee at Chattanooga developed a generic model of library research. This model has three stages: pre-library, library awareness, and library competence. Each parallels a stage in the writing process. Library use is presented as a series of activities including searching, retrieving material, evaluating material, summarizing, and, if necessary, retracing earlier steps.

Most faculty agree that college students should acquire the ability to do research. Yet, research is a way of life to many who teach in higher education, an activity so familiar that they rarely pause to analyze it or to consider its complexity. Thus it is difficult for faculty to understand the dislike students exhibit toward research papers, their uncertainty of how to begin, and the poor quality of the papers they produce.

In many instances, freshman English instructors, sometimes supplemented by instruction librarians, have been responsible for teaching college students how to do research. The traditional methods of teaching research have evolved from a linear, product-oriented model. The instruction librarian focuses on tool use or search strategy, the product of which is the vaguely described "information about your topic." The English instructor focuses on selecting topics, preparing an outline, and presenting information. The product of this activity is the equally vague research paper. Since the emphasis tends to be upon a product appropriate to a specific discipline, little consideration is given to the transferability of the subject matter from one discipline to another. There is, however, a new movement in higher education which lays the groundwork for the concept of writing as process. When writing is examined as process, or in terms of recurring stages, the link between retrieval and use of materials and the circular nature of the link are far easier to see.

WRITING AS A PROCESS

Within the last decade research on writing has moved from an examination of the written product to an exploration of the process through which the product is created. Most writing theorists describe a three stage process: a pre-writing stage during which the writer explores the topic of the proposed piece of writing, a writing stage during which the writer is concerned with expressing his/her ideas for a specific audience, and a rewriting, or edit-

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ing, stage during which the writer evaluates and reworks his/her piece of writing.

During the first stage of the writing process, the writer is not concerned with an audience. Rather, the task is to explore the topic, what the writer already knows about the topic, and what the focus of the written piece should be. The technique most commonly used at this stage is freewriting. Beginning with a topic, the writer writes steadily for a short period, putting down thoughts as they occur. The writer does not let the pencil stop moving even if circles or loops must be drawn. This technique is sometimes called "looping." James Moffett suggests that this technique allows the writer to tap into a stream of consciousness, thus discovering personal knowledge, interests, and conclusions about a topic.[1] This stage represents the writer talking without a concern for the audience, style, or the rules of grammar.

During the second stage, the writer composes the message to be presented. Attention is given to the audience as well as to style, syntax, and choice of language. The task of writing is presented as a series of drafts and revisions rather than a single attempt to prepare a finished product. Students are assisted in their revision of various drafts of their papers through individual conferences with faculty and by peer evaluation.

The final stage, rewriting, can range from simply proofreading and polishing to major revision based on peer review and self-evaluation.[2] Individual conferences and group work with peers help to match writing style with intended audience. Editing for grammar and spelling is also emphasized as an important final activity in the preparation of the paper.

Most theorists consider the process recursive rather than linear. Thus, no clear-cut, linear stages can be observed; rather, the writing activities shift back and forth among the stages as the written product grows, changes, and develops. Focus on the recursive nature of the writing process stems from the work of researchers such as Perl[3] and Flower and Hayes.[4]

GENERIC MODEL OF LIBRARY RESEARCH

Starting with the concept of writing as process, a group of faculty at the University of Tennessee at Chattanooga (UTC) met daily as part of a summer project to examine the freshman composition course which includes an introduction to the research paper. The group included representatives from the arts, the sciences, the social sciences, composition, and the library. One objective was the development of a process model of library research.

The first step in developing the model was the conceptualization of what the group coined the "generic" approach to library research. As the group discussed research, it recognized that, in addition to a discipline specific concept of library research, there was also a more general research need. Thus "generic" research is defined as the need to locate sufficient information for research papers in other introductory courses such as general education courses. The aim is to identify general principles with lifelong application rather than the simple acquisition of facts for immediate use. The generic model broadens the definition of "information sources" to include communication with experts and personal observation.

The model (see Figure 1) is conceptualized in three stages: pre-library, library awareness, and library competence. During the pre-library stage, the need-to-know is generated. It begins when the potential researcher selects or is assigned a research topic. Using techniques of invention such as freewriting or brainstorming, the student explores existing knowledge of a topic and begins to choose a focus for research. As the limits of personal knowledge are explored, the student reaches a point where the insufficiency of that knowledge is recognized. This is the point we have labelled "library readiness."

The second stage, library awareness, involves the conscious recognition of the need-to-know. Here the motivation to seek additional information is increased. At this stage, the student begins note-taking. Basically, this is talking to oneself about new information being acquired. As the student reviews these notes and begins to evaluate the adequacy of initial sources, the need for more information is generally recognized. This provides the transition into the final stage of the model.

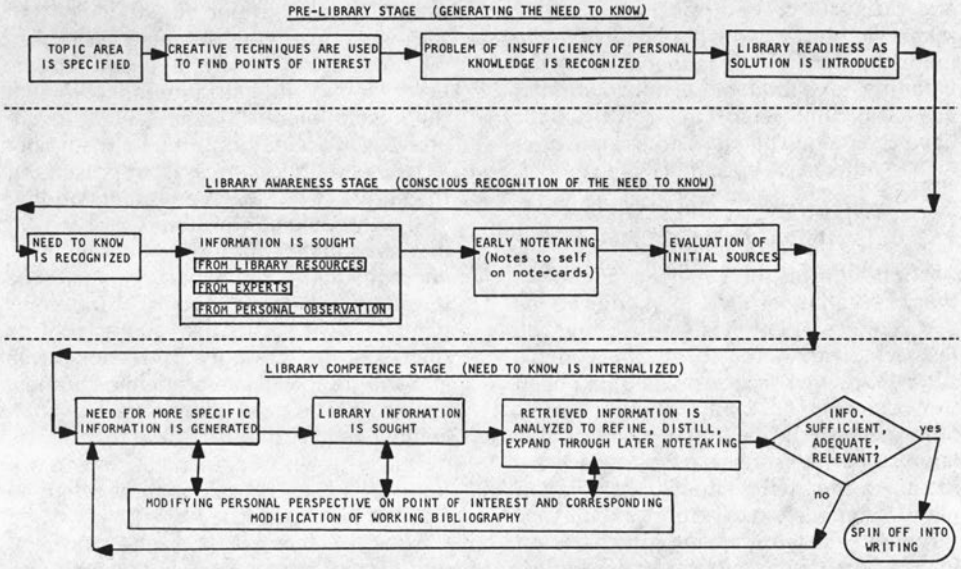

FIGURE 1
Generic Model of Library Research

As the student enters the library awareness stage, simple instruction should begin on the bibliographic organization of the library and the use of either fact or finding tools immediately applicable to the information need. This introduction is most effective if students have at least an elementary competence in summary, paraphrase, and bibliographic form—the basic tools of note-taking. It is not enough for students merely to master the technical aspects of a tool such as an index. They must be able to identify and retrieve relevant information of potential use to the product of their research efforts.

One of the conflicts encountered at this stage is the balance between success and frustration. As all experienced researchers know, library research is a problem-solving activity with more dead-ends than successes. Students need to be exposed to the reality of the dead-end as well as to the benefits of a successful search. While it is unlikely that a first search will yield too much success, it may well result in too much frustration. It is therefore very important for the composition instructor and the instruction librarian to cooperate and closely monitor this initial library experience. In this way, the student can be guided to an experience that is both realistic and rewarding.

The third stage of the model is the library competence stage. The aim is to develop in the student a competence in the library research skills being taught and used in the composition course. At this stage it is assumed that the need-to-know has been internalized to the point where the student is motivated to continue library research. After the information initially retrieved is evaluated, the student generally becomes aware of its insufficiency. This generates a need for specific information. Since the library has been presented as one solution to the problem of insufficient knowledge, the student is inclined to return to the library to seek further information. This is the first step in a recursive process of search, retrieval, and evaluation. As new sources of information are located and examined, students are encouraged to analyze these sources in order to refine, distill, and expand their ideas about the research topic. This process continues until the information retrieved is viewed as sufficiently adequate for the student to begin writing the paper. Once again it must be remembered that process, by its very nature, is not linear

and does not occur in neat, predictable steps. The student who has begun to write may find, through the influence of the developing text, that more information is needed or that perspectives on the topic have changed. This may necessitate a return to other steps specified by the model.

THE MODEL APPLIED TO BEGINNING COMPOSITION

Application of the generic model of library research resulted in modifications and changes of emphasis in teaching the research component of beginning composition. While writing as process had been the focus of UTC's composition program, library research was not viewed as nor taught as process. Research paper assignments in the composition course varied widely from section to section and the topics were selected without consideration for the availability of materials, bibliographic format, or reference tools needed to satisfy information needs. Many composition teachers, unfamiliar with the bibliographic organization of the library and the concept of search strategies, relied on the "scavenger hunt" assignment in order to orient students to library resources. Since instructors frequently did not know if their assignments could be effectively completed within the constraints of the library's resources, the result was often frustrated reference librarians, anxious or hostile students, and irritated composition teachers. Thus, when topics for research papers were assigned, students were unprepared for the rigors and disappointments of library research. Teachers were left with the impression that library resources were inadequate.

As the generic model of library research developed and grew with input from librarians, composition teachers, and instructors from other undergraduate disciplines, it became clear that the traditional methods of assigning research papers and introducing library research were inadequate. Participants in the summer project decided that three areas should be emphasized in the development of library instruction activities: attitudes toward the library and librarians, limitation of research topics to provide positive experiences rather than frustration for students, and the development of print materials to supplement instruction in the use of specific library tools. Since attitudes are pivotal to the development of competent researchers, it was decided that the following objectives should be stressed in presenting the library to students: an understanding of the intrinsic role of library research in undergraduate education; a sense of benefit to result from effective library use; the development of an attitude of library competence in the student; an appreciation of the reference librarian's professional role and the complexity of academic libraries; an understanding of library search as challenging rather than frustrating; and a redefinition of library success as competence in search processes rather than as number of items retrieved.

After the four-week summer project, during which the generic model of library research was developed, the director of composition, in consultation with the coordinator of library instruction, integrated the model into the suggested format for fall classes. Application of the model was made easier because the composition program had been designed around the concept of writing as process. The process emphasis led many beginning composition teachers to design their courses around a series of short research papers, rather than one long paper.

Since library readiness is dependent upon the mastery of some basic skills as well as a need-to-know, the first research paper taught these skills. Students selected a topic from a required book of readings and used this material as research information. The skills of summary, paraphrase, and bibliographic form were emphasized and the problem of plagiarism was addressed in a controlled setting from a uniform information source. Therefore, before their initial use of the library for research, students experienced a simplified version of the process required to produce a research paper.

The second assignment was a library research paper. Information sources were limited to journal articles which could be found in *Readers' Guide to Periodical Literature, Social Sciences Index,* and *Education In-*

dex. This limit was established because (1) journal articles are easier for beginning researchers to read and to summarize than books, and (2) non-circulating journals are readily accessible. Students were introduced to the concept of index use through the familiar *Reader's Guide*. They were then led to other Wilson indexes which provide more scholarly sources of information without requiring mastery of a technical jargon that is beyond the knowledge of most freshman.

To arrive at the point of "library readiness," composition teachers worked with students to define and explore topics from a controlled list that was developed with the help of the reference staff. Each of the four or five topics was checked in the indexes to verify that enough information was available and accessible in the library to support students' research efforts. Accordingly, library instruction sessions were developed around specific topics, focused on specific tools, and offered to students who recognized their need-to-know.

Library instruction sessions were designed to incorporate the concept of generic versus disciplinary research. The students were told that as undergraduates they would often be expected to follow a systematic process in order to complete a research assignment. They were shown how to define and narrow a topic using subject headings, subheadings, cross references, and titles of articles in indexes. This technique saves time and frustration for beginning researchers since topic narrowing with indexes assures that relevant information is readily available. To increase the likelihood of a successful search the need for a problem-solving approach to finding terms was stressed. In addition, the program provided a simple overview of library reference tools, and a basic research strategy with practice in its use (see Figure 2).

Since the library instruction session is relatively straightforward, it was originally thought that the composition teacher would conduct it after briefings by the library faculty. However, evaluation data indicated that approximately eighty percent of the students in every class mentioned that the "friendliness" and "knowledge" of the librarian alleviated their fear of library research. Thus, although the goal of both the writing program and the library instruction program was integration of library skill development into the fabric of the composition course, it was decided that a single session taught by a librarian should be retained.

Composition teachers differed in their

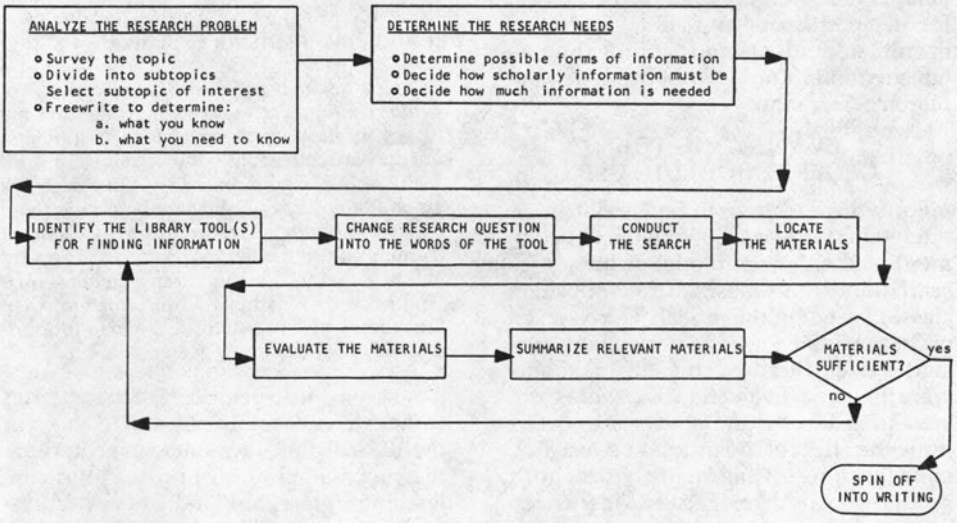

FIGURE 2
Basic Search Strategy for Beginning Composition Students

approach to the third research paper. Some repeated the entire process used for the second research paper. Others preferred to have students apply that process to a research project involving the use of other library tools. For the latter group, students were required to use newspapers in support of an opinion paper on a current topic. Students responded well to this assignment; so well in fact that *Newsbank*, previously almost unused, became one of the most popular tools in the reference collection.

The integration of library instruction into the writing program evolved slowly over a three year period. In developing the library instruction program, the initial focus was beginning composition, a course required of all students. This assured some entry level information search skills. Two years were spent in building links to the composition faculty and determining the best concepts to be presented. Since its introduction the teaching model has been evaluated and a number of revisions and refinements have been made.

In addition to the systematic introduction to library research, the new composition course provides an opportunity for reference librarians to work more closely with composition faculty. Approximately one-third of the class sessions are now held in the reference area of the library. Faculty participate by fielding questions from their students and by providing an effective interface between students and reference librarian.

EVALUATING THE GENERIC MODEL IN USE

Forty-three sections of English 102 were offered in the year following the development of the generic model of library research and the redesign of composition classes based on the model. Thirty-seven of these sections used the new course design. Seven hundred and fifty students were involved. Evaluation data were gathered from faculty and students to determine the effect of the process on teaching and learning. Comments from both groups were positive. Faculty experienced greater control over teaching and students experienced growing confidence in the search, retrieval, and use of information.

Composition faculty were asked to state in writing their observations and attitudes about the new teaching approach. Responses were consistently positive, with all faculty describing the search for information as an integral part of the research paper process. One faculty member expressed it in this way:

> Research is a process, of course, but this semester's work has convinced me that the process is not a matter of finding a topic, locating sources, doing bibliography cards, writing a draft and then writing a final paper. These are steps in writing a research paper, but the real process involves much reading, writing, and wondering. These activities do not necessarily occur in any order, and they most certainly must be repeated a number of times in the research process. For the students to realize that this process leads to the best paper, these activities must be built into the paper assignment.

Other composition teachers talked about the "relationship between the search process and the creative process," and described the writing of a research paper as "a process of thinking, reading, sorting, and writing," and discussed the intellectual growth of students in terms of "their ability to assimilate and use information."

All composition teachers who used this process felt that it was successful and that their teaching was more effective as a result. One instructor explained:

> Taking a research assignment and working together through each succeeding step not only makes the task much easier for the students, but they are better able to understand and work with the information they find. On a daily basis, students say that they are becoming more comfortable with the research process. They are learning to use the library resources. They are able to gather information to answer questions. And once they gather that information, they seem better able to assimilate it and to produce focused, organized, and even readable papers.

A second instructor comments, "After some extensive rethinking and redesign of my 102 syllabus, I was able to incorporate the process approach into the students' learning of research, and I have been really happy with the results." She went on to explain her reasons: "I feel confident

that, for the first time in a long while, these students are going to know how to handle a research assignment in the future, in any general education class."

A third instructor explained it this way:

> By the end of the semester, most students were handling most facets well. Because we emphasized the skills involved at each stage and they had a chance to develop these skills, most students now feel quite at home in the library and are pleased with their new ability.

Students in the composition classes were required to keep journals. In the journals they commented on their experiences gathering information and writing the research papers. Students were also asked to write evaluations that discussed the positive and negative aspects of learning to use the library. Over ninety-five percent expressed satisfaction with the new way in which the library and its resources were integrated into course design. While earlier class evaluation data emphasized tool use, the evaluation data from classes integrating the generic model reflected the beginnings of a process orientation. One student explained that she "was now able to locate the same source of material by using different angles," while another declared, "I also discovered that there really was a system to finding a path through the materials at our disposal." Overall the comments provided an excellent reflection of the awakening of process.

In addition to their beginning awareness of process, many students described an initial freeing of "library anxiety." They began the semester dreading the library, but ended it with confidence in their ability to use library resources. One student explained that she was "absolutely frightened about the idea of working in the library. I was sure everyone else would know what to do and I was certain I would be the only panicky one in the group." By the end of the semester her feelings had changed. "Now," she said, "I feel very confident whenever I go into the library."

A second student declared, "I have had a complete change of attitude toward the UTC library." He describes how his "terrible fear" of the library turned into confidence, ending on the exultant note: "It is unbelievable how much information is contained in the UTC library and it is all there waiting for me to use it!"

While some students recorded traditional complaints about the availability of specific journals, access to copy machines, and the temperature of the building, there were few negative comments on the process by which they were taught. In fact, only three suggestions for improvement appeared with any regularity: a tour of the library; two sessions rather than one because of the amount of material covered by the librarian; and more training in the use of microform.

These comments graphically illustrate the growing confidence and pride expressed by students as they began to search for, retrieve, and use information in a more proficient, process-oriented way. Demonstrating, discussing, and guiding students through the research process was time-consuming, but rewarding. One composition teacher declared, that the effort paid off handsomely. Students were responsive and exhibited growing confidence in their own abilities.

IN SUMMARY

The concept of writing as a process produces changes in the teaching of beginning composition that require corresponding changes in the presentation of library instruction. The recursive nature of the composing process demands that library use be viewed as a series of recurring activities that include searching, retrieving, reading or skimming material to evaluate its applicability, summarizing relevant material, and analyzing retrieved information for adequacy and sufficiency. This process continues until the student stores enough information to reach the rhetorical goals set for the proposed research paper. To help students achieve this process orientation toward library research, composition teachers and instruction librarians need to develop an integrated approach to teaching. This requires an understanding and respect for the expertise of the other.

While much attention in higher educa-

tion is currently being directed toward the concept of writing as a process, little thought appears to be given to how this new concept affects the presentation of library instruction. With the exception of Flower and Hayes,[5] writing process models do not mention the impact of library-retrieved information on the writer. Therefore, it is up to the instruction librarian to alert composition faculty to the desirability of inserting library as process into research writing as process. Instruction librarians who put forth the necessary effort will find that it "pays off handsomely" through the increased motivation and positive attitudes that students have toward library research and its role in the total research process.

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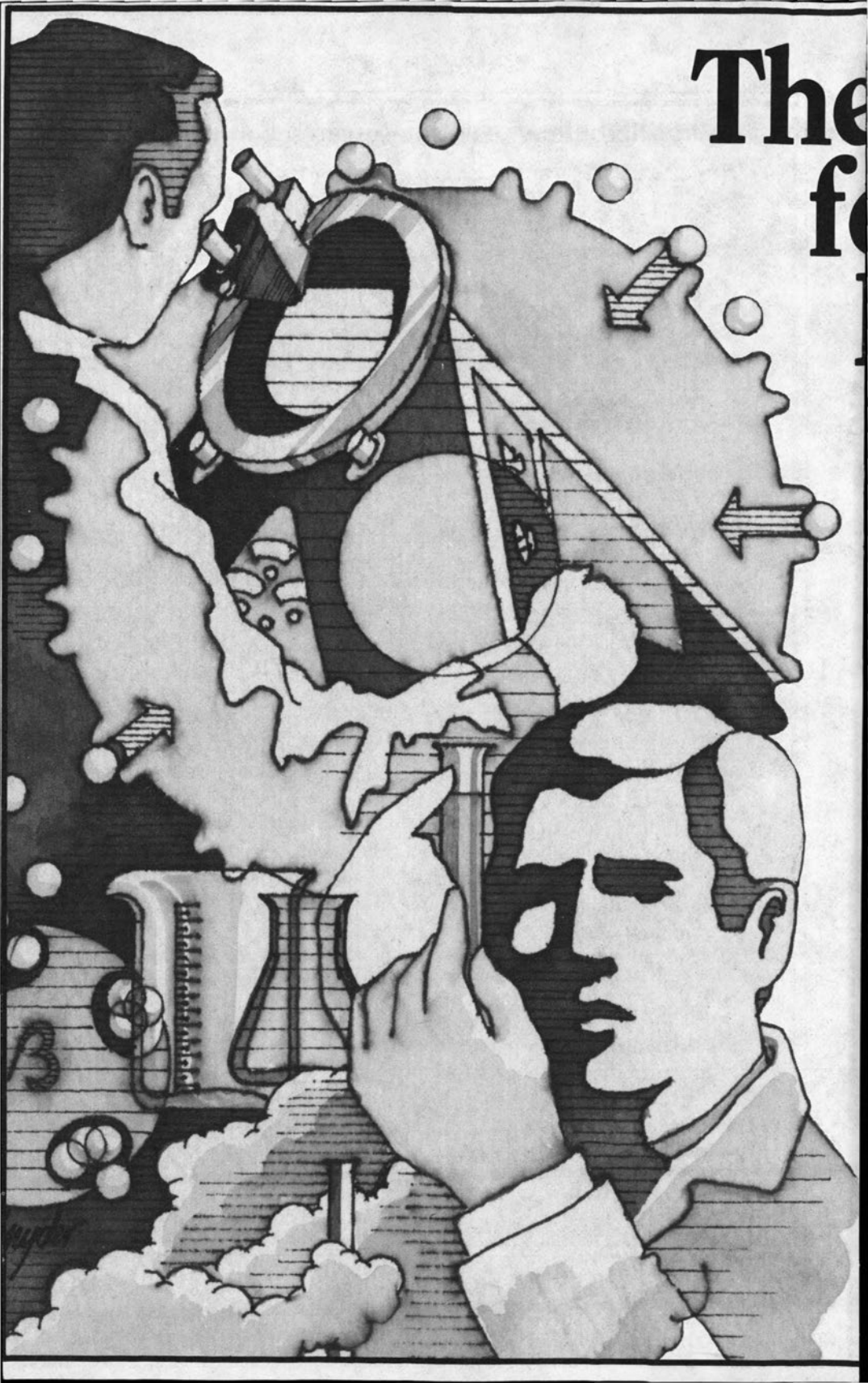
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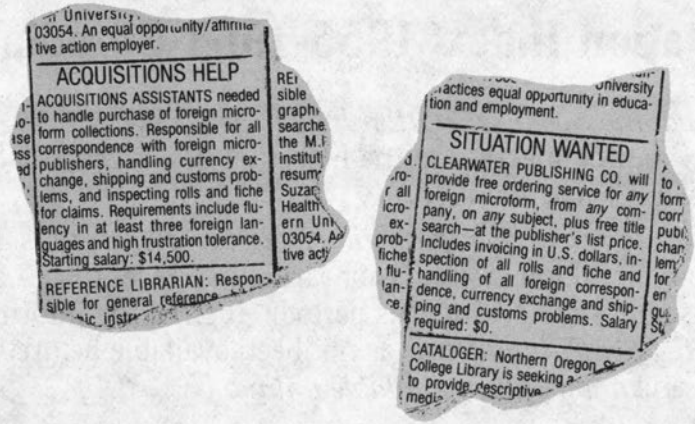

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