Since high school and college students are often assigned research papers which require extensive reading, they would benefit by using a specific strategy which helps them in applying information-search skills, reading skills, and cognitive processes. Such a strategy assumes that it is the organization of ideas from several sources which produces integration in learning and that the quality of the student's written or oral output is influenced by the way in which the reading task is carried out. An effective strategy involves five time-management principles to assure that the task is manageable and three general skill or process areas--search skills, flexible reading skills, and idea integration. Following this strategy makes the task possible and interesting, provides internal reinforcement, takes fallible memory into account, gives a structure for skill use, and produces a final report of better quality. (A chart of the strategy is included.) (JM)
A Strategy for Reading Independently

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INTRODUCTION

Students in high school and college often face independent study projects that require them to do wide reading. For example, they may be expected to research a topic to prepare for writing a term paper or for making an oral presentation. The learning intention for them usually is to develop some perspective regarding the information they gain. It means they are expected to form and expand upon a thesis idea.

Thus, they must be able to do relatively extensive reading about a topic, in contrast to purely intensive reading from a single text. Further, they must synthesize and extend the ideas generated from all the reading. Successfully carrying out such a task requires the application of information search skills, reading skills, and cognitive processes. To increase the interest and efficiency in accomplishing such a task, a definite strategy for sequencing and timing must be applied to the skills.

ASSUMPTIONS

Two assumptions are made regarding the need for a strategy. One is that wide reading itself is not necessarily an integrative learning experience for a reader. Students may collect bits of information from a book, do the same from others, and piece the information together with little integration of ideas occurring. Instead, it is the organization of ideas from several sources which brings about the integration in the learning.

Another related assumption is that the way in which the reading task is done influences the quality of written or oral output a student produces. While students may receive help on the search process, and even on the actual writing process, the skills necessary for carrying out the reading part of the project seldom receive
focused attention. Spending more effort on developing various reading techniques may produce better thought and organization in the actual written or oral presentation.

TYPICAL PROBLEMS

There are several predictable problems students may encounter when working on a project involving wide reading. Application of the strategy generally allows students to deal with these problems more successfully.

A couple of the problems are related to the search aspect of a project. One of them has to do with choosing a topic. Another involves locating materials.

Other problems relate to the reading techniques used by students. First, premature in-depth reading of the materials can be counter-productive for efficient accomplishment of the task and, in some cases, can actually prevent desired ends (such as developing perspective about a topic or integrating information) from being achieved. Also, students may become discouraged after spending a considerable amount of time on a certain part of their reading (or note-taking) if later on they find some other portion or part of the topic more in tune with their interests.

Then there is the dilemma of needing, from the beginning, a specific question to address in the research, yet not being able to know that question if the topic is in a new unfamiliar area. The beginning organization can be chaotic, and students sometimes wind up taking too many notes on miscellaneous points without a focus to tie them together.

Most of these reading problems can be summarized as a failure to know and apply good time management principles as they pertain to such a project. Part of this failure involves uncertain understanding and/or careless application of reading techniques and organizational processes.

As a result, many students behave in unfortunate ways. For instance, they may think only in terms of the total project, and the intimidation of that brings immobilization. Or, a pieced-together project resulting from poorly planned and executed reading may bring anxiety.
TIME MANAGEMENT PRINCIPLES

A useful way to carry out an independent study project is to apply a strategy using certain time management principles.

One basic principle is that sub-units of a large task must be defined carefully. See Figure 1. (For most students an independent study project is a large task.) There also should be a rationale for each sub-unit specification.

The strategy suggested here has six sub-units. The first is to choose a topic or idea to research. The second is to expand the sources of information to a relatively large number, while the third is to limit those sources to less than half of the original number. The designated number twenty-five in this case is an arbitrary figure, yet a workable one, to begin with for most student projects. The rationale is to be able to get a broad perspective first—to have some sense of the expansiveness of a topic and to know how much is available regarding it—before finding a manageable limitation of the ideas and materials. Further, the processes of expanding and limiting enable a student to gain confidence in making judgments about what to learn, allowing him to be in control of his own learning.

The fourth sub-unit is to find passages relevant to the topic in the selected sources. The rationale for this is that in-depth reading of more than passages is usually unnecessary and can be distracting for the focus of the topic. Finding all the passages before actually doing the in-depth reading of them helps to highlight issues and to give perspective regarding how an issue or question is handled in the literature. And, it provides a known and manageable boundary for the reading.

The fifth sub-unit is to read in depth and to reflect on the ideas in the passages. This step offers the chance for absorption, evaluation, and integration of ideas. By reading passages only, rather than entire sources, less time usually lapses between the various passage readings. (This helps to eliminate some for-
The sixth sub-unit is to determine the central point of the paper or talk. The student ought to make a statement about the topic—one that can be held up to objection or for proof. Unless that is done, the outcome may become a collection only of pieced together facts and ideas.

A second time management principle is that a decision must be made regarding whether or not there can be overlapping of sub-unit accomplishment. In relating this principle specifically to an independent study project involving wide reading, the decision must be made that each unit has to be completed before a move to the next can take place. An exception to this can occur with the last step (determining a thesis idea). That step may stand alone or be a part of some of the other sub-unit processes.

Failure to adhere to the decision of completing a sub-unit before moving to the next leads more often to chaos than to creativity for most students. It prevents them from deliberately developing a focus and it encourages non-productive side-tracking. For instance, a student ought to have all of the sources of information in front of him as he sits down to overview them for developing some perspective and for finding a manageable limitation. He is more apt to complete the task of overviewing quickly if all the sources face him than if some are missing. In the latter case a student might be more easily tempted to read some materials in depth prematurely. Completion of each sub-unit is in itself a reinforcing activity for continued progression throughout the entire project.

A third time management principle is that priority-setting must be done for the percent of overall time that should be spent on each sub-unit. For instance, time management specialists (Lakein, 1973) suggest that paper work be divided into "A" (high) level and "C" (low) level priorities. One should spend most of his time on the "A" level tasks.

Following this line of thinking regarding an independent study project, the
principle would imply that more time ought to be devoted to the step of reading/reflecting on passages to integrate ideas than on the steps of searching, expanding, and limiting. Yet students report spending a disproportionate amount of time looking for materials, expanding, and limiting them. Often, the in-depth reading and integrating is done too hurriedly and incompletely.

A fourth principle is that a time schedule should be made for each sub-unit. The schedule should indicate whether "massed" or "distributed" time is applied to each unit. Such an indication is a key element in contributing to the efficiency of carrying out the project. Massed time refers to a relatively long unit of time without major breaks in it. Distributed time refers to shorter units of time broken by other activities.

For an independent-study project involving wide reading, massed timing is particularly important to apply to each of steps numbers two, three, four, and five. A student ought to complete an entire sub-unit in a single extended period of time (or at least in a couple of sittings close together in time). With massed timing much of the stimulus material is fresh in mind so one can keep more focused on issues and can raise questions. There is less chance of forgetting which actually occurs just from the passage of time. Also, students can more easily keep the skills/processes separate (and the entire process more efficient) if they repeatedly apply one skill to a number of sources before moving to another skill within a single source.

A time schedule organized by projected time-amounts for sub-units can enable a student to set smaller completion goals, and he can more easily monitor and find satisfaction in his progress. The notion that there is a boundary on the sub-unit task makes it less overwhelming and more manageable.

A fifth principle is that the skills and processes necessary for carrying out each step must be known and put into practice by the person doing the task. It is often unclear what the specific skills are that bring about successful completion of an independent reading project. Then when students run into difficulty
with the process it is often difficult to pinpoint the problem.

There are three general skill or process areas that have to be applied for completing extensive reading projects. They are the search skills, the flexible reading skills, and the processes by which ideas are integrated. Some general suggestions will be given regarding the search skills. More specific suggestions will be given for the reading skills and the processes which seem to aid integration of ideas.

The search skills involve choosing a topic and locating sources of information. A useful strategy for choosing a topic has been suggested by Williams and Long (1975, p. 130). They outline some starting points for students to consider if they have difficulty finding a topic: 1) Population—is there a certain group of persons of interest? 2) Behavior—is there a particular kind of behavior that would merit study? 3) Model—is there a special orientation that appeals? 4) Technique or concept—within one's favorite system, is there a method that is intriguing? 5) Theoretical proposition—is there some aspect of a given theoretical orientation which ought to be held up to testing?

Williams and Long suggest that if a student can respond to one of these points, he has a place to begin. And if he can respond to a few of them, the topic will almost identify itself.

Locating materials can also be a problem if a student does not know library search skills. However, it is possible to work around this lack of skills by making use of the search technology currently available. Information search specialists work in libraries, and they themselves can spend their time locating the sources of information. Computerized retrieval systems can quickly provide reference lists for topics. To use such help effectively requires a different set of skills on the part of the student. He must be a good "client" for the information specialist. For instance, he must be able to think through appropriate key words. He must also know how to handle information quickly and to make appropriate judgments regarding the value of a reference from the title or abstract of it.
The second major set of skills necessary for successful accomplishment of extensive reading projects are the flexible reading skills. These skills can be classified as overviewing, skimming, in-depth reading, and synthesizing or organizing. In addition, these skills must be applied to the various technical, general expository, and narrative content patterns found in books and articles. The skills will be discussed briefly along with instructional suggestions for developing them.

A student must know how to overview a source for its thesis idea and organizational development, as well as know how to overview a source for the topics, general physical structure, and aids to readers. If a student cannot recognize a thesis idea in a book or article from an overview, and if he cannot articulate this major point, he certainly will have difficulty writing his own thesis for a term paper.

Instructions can be given for such skills, however, to really learn them, students must use them on their own materials. For instance, seeking thesis ideas from several kinds of sources in current use, writing these in one's own words, and then receiving feedback on the work, would give useful practice to a student.

Another necessary reading skill is skimming or superficial reading. This refers to reading the first sentence of paragraphs or some variation of that activity with that of seeking key words or ideas. Timed practice for using such techniques in the students' own materials is helpful. Another practice activity is to give a fixed time amount (e.g., twenty minutes) for students to see how many sources (e.g., articles) they can cover superficially. (Brief notes should be taken on major points.)

Knowing some ways to make in-depth reading a more active process is particularly relevant to situations calling for extensive reading. Marking idea focal points in passages and having the intention to summarize the pertinent points can aid the active processing. Also, intending to relate certain ideas in a source to the major thesis increases the chance that the processing will be more active.
Synchronizing material across sources of information is a final skill which may be considered as part of the reading process. This means that a reader must be able to recognize elements from more than one source which are similar or related and which can be combined into a whole idea. Students can practice this process by choosing two books on a similar topic and then by looking for connecting elements in them. This implies that they must overview each book to find passages which can be read in depth and which can be the stimulus for an attempt for synthesis. (This should be done within a given time period to encourage efficiency.)

The third process necessary for successful accomplishment of wide reading is that of idea integration. This is not completely distinct from the reading, and obviously there is interaction between the reading process and the idea integration process.

This process involves relating and combining ideas from two or more separate learning experiences, hopefully to produce more fully developed thinking about a topic. Some focal points or elements from within one source which can be related to those of another source include a position, problem, solution, consequence, implication, reason, or process. These elements can be related to other currently read samples, to past reading, and to life experiences. Outcome possibilities include issues or emergent questions, new ideas, evaluation, and applications.

There are certain surrounding conditions which tend to foster the integration process. One of these involves the timing of the reading of different sources. This timing ought to be fairly close together. Another condition involves the kind of notes taken. They should focus on various aspects of issues. Finally, there must be comfort with making decisions on sources to skim, read, or skip.

CONCLUSION

Following this strategy for undertaking the reading part of a term project has several advantages. First, it makes the task manageable, for both sequencing and
timely, in an interesting way. Second, it provides internal reinforcement. With completion of earlier sub-units, there is more impetus to work on subsequent ones. Third, the strategy takes into account the realities of pervasive forgetting. Fourth, it gives structure to the use of skills generally carried out in incomplete and disconnected ways. Finally, it produces better quality in the written or oral report.
STRATEGY FOR EFFICIENT INDEPENDENT-STUDY READING

Steps

1. Choose topic/idea

   Timing
   Few minutes
   Odd comments

   Skill/Process
   Brainstorm
   Reference leads
   Population
   Behavior
   Model
   Technique-concept
   Theoretical proposition

   Written Output
   Key Words

2. Expand sources to 25 (for broad perspective)

   Few short sessions
   Have all sources before continuing

   Use reference help
   Use search technology

3. Limit sources to less than half (for manageable amount)

   Complete in one or two sessions at most
   (massed timing)

   Overview for thesis,
   potential usefulness
   of information

4. Find passages relevant to topic in the dozen sources

   Complete in few sessions
   (massed timing)

   Skim-read superficially
   Overview information
   added to cards

5. Read/reflect on passages

   Several sessions
   for completion
   (massed timing)

   In-depth/summary
   reading

   Working/thinking notes
   e.g. Determine issues
   Make questions
   Clarify terms

6. Reflect upon/determine your point of view (thesis)

   Odd comments
   Complete writing in
   1 short session

   State point of view
   in one or two
   sentences

   Notes:
   e.g. Clarify issues
   How questions are
   answered differently.
   Why? Is there logical
   order to questions?

   One sentence thesis
   statement

Figure 1.
REFERENCES


