How Children and Youth Learn To Study

Out of sound research findings are drawn several principles to guide teachers in helping children and youth learn to study.

THE instructional leader is faced with many kinds of problems. Some of these relate to complaints of teachers and parents about inefficient study habits of students, assignment of homework, pressures for expanding the curriculum, and attempts to take teaching shortcuts such as TV classes. In order to reach intelligent decisions on these matters, he must be somewhat familiar with the research on how children and youth learn to study.

What Are the Research Findings?

The earlier investigations centered on methods of supervising study (3), but Brownell (5) demonstrated the need for defining study skills objectives in terms of necessary abilities and work habits. Outlining is a skill which has been given much attention in the research. Barton (15:134), working with five experimental and five control groups of junior and senior high school pupils, found that those who were taught to outline gained significantly more knowledge in history and in geography. Salisbury (11) experimented with matched pairs of secondary school students who received 30 lessons involving outlining. She concluded that development of outlining skill resulted in improvement of reading, ability to solve reasoning problems, and achievement in content fields. Studies by Simpson (12) and others have tended to support findings favoring outlining as a study skill.

Summarizing is another practice which has been found to be valuable. This may take the form of a written summary or of mental review. Newlin (5) observed that students who were taught to summarize were able to utilize this skill successfully as a study aid. Summarizing, outlining, underlining, and note taking were found by Dynes (7:357) to help children achieve better in high school history than reading and rereading. Another study by Germane (15:26) showed rereading to be a less effective study procedure than the mental summary and the corrected summary.

Closely related to the skill of mental summary is the habit of recitation after reading. Gates (7:316) concluded that both meaningful and nonsense material
The teacher insures good study habits through skillful guidance.

were better memorized if the learner recited the main points to himself, with constant self correction, after reading it. Forlano (7:317) compared the same type of recitation method with the all reading method for learning intermediate grades spelling, arithmetic facts, and vocabulary material; he found the recitation method superior to the reading method and it was even more successful for delayed recall than for immediate recall.

The value of repetition and of spaced repetition in the study of material to be memorized was investigated as early as 1885 by Ebbinghaus (7:301) and more recently by Reed, Hahn and Thorndike (7:303), and others. Repetition is most efficient when arranged in a number of relatively short periods which are distributed with rest between. The optimum length of each drill session depends upon the age of the learner and the type of content being studied.

Various pieces of research indicate that little learning takes place unless it has meaning for the student; consequently, an overview or preliminary skimming of material to be learned is recommended as a means of helping the student to understand better the relationships of the specific facts that are to be studied. For the same reason the whole-part-whole method or the progressive part method are recommended for memoriter learning (7:315).

The value of extensive reading as compared to intensive reading in textbook materials was reported in two studies by
Cohen (4) and by Rice (10). Cohen found that extensive reading was the more useful in improving specific reading skills, and Rice revealed that extensive reading was definitely more effective in the acquirement of scientific knowledge in several high school science courses.

Probably motivation is the most significant factor in the development of good work habits. A series of well-planned studies which were recently reported by Brown, Abels, and Iscoe (2) indicated that low scholarship college students were not necessarily lower in intelligence than better scholars, but they revealed a much lower level of interest and motivation both in class-related activity and in some other areas of living. An older experiment by Collings (6:73) showed the value of activities combining motivation and meaning. Rural school pupils aged six through fourteen years participated in real-life study projects for four years; their gains in achievement on standardized tests of facts and skills were considerably better than those of children in a control school of the traditional type. Also, the values of topical unit teaching including dramatization, group discussions, audio-visual experiences, and numerous other learning activities at the junior high school level, have been illustrated (7:356).

All of the evidence indicates that students learn best when they are actively involved and when the work is suited to individual needs. Therefore, radio and television can never replace the teacher.

A classroom library corner can help improve study skills in the elementary school.

December 1958
who must diagnose pupils’ difficulties and adjust instruction to individuals. Television programs that are merely illustrated lectures require only passive involvement by the pupils, and cannot have the educational value of classroom and laboratory projects in which students are personally engaged. However, radio and television programs do have tremendous worth when used as supplementary resource materials.

Several research projects have been undertaken to ascertain the necessity of giving students training in the use of study skills. In an investigation that was rigorously designed and executed, Stordahl and Christensen (13) compared the learnings of Air Force trainees who had been given no study skills instruction with others who had been taught to employ underlining, outlining, and summarizing. Those who were trained to use the study skills achieved significantly higher comprehension on both immediate and delayed tests than did those who simply read and reread the assigned pages. Somewhat similar results have been obtained by other researchers (5, 12). McCallister (5) and others have shown that there is a significant difference in the reading-study skills used in various subjects, also.

There have been several analyses of the differences between study habits of high and low achievers (7:358). These have usually revealed that the better students plan systematically, study alone, work in a place having no distractions, and practice the procedures of overviewing, reviewing, outlining, summarizing, note taking, and demanding understanding during careful study.

A number of experiments have focused on homework as a study aid. Some investigators reach conclusions very favorable to homework, while others obtain opposite results (9; 14:20). Although more research is needed, it now seems apparent that traditional types of homework often do not improve achievement, but some of the newer procedures have value when used wisely. A recent survey of opinions of school superintendents across the nation revealed that the majority did not recommend homework in the lower elementary school, but they did favor it above that level; median suggestions were three hours weekly for upper elementary grades and four to six hours weekly for secondary students (8).

What Principles Evolve?

From the research and a survey of expert opinion nine guiding principles for fruitful instruction evolve. These principles apply in differing degrees to development of study skills and habits from kindergarten through college.

1. Readiness is a prerequisite of productive study. The teacher must determine whether children have the ability to master new concepts; and he should make sure that the underlying understandings have been developed. New vocabulary that is used in the material should be presented by the teacher of the subject involved. Also, the student must feel that he is a reasonably secure member of a group before he can study effectively in that group situation.

2. Motivation is crucial. The teacher who follows the recommended mechanics of lesson presentation but who fails to interest and inspire the children, is a pedagogical dud. Classroom activities should be fitted to the natural interests of the children, but new interests must be created, too. The teacher’s personal enthusiasm coupled with challenging learning goals make the difference between a monotonous course and an invigorating study situation.
3. Students learn to study by participating in the planning. Obviously the learning experiences cannot be truly meaningful to the students if they have had no voice in the planning. After the teacher has thoroughly surveyed the resources for the unit which is to be taught and has provided a stimulating introduction, he should discuss with the students:

a. What more do we want to learn about this topic? (b) Where can we find this information? (c) What use do we want to make of this knowledge immediately in school projects and in our daily living?

4. Good study habits are developed when the students are actively involved in extensive unit work, laboratory experiences, etc. Skills and understandings are learned and retained when students have immediate use for them and when they are related in a pattern of other learnings.

5. All available resources should be utilized in the search for facts. Children and youth must be guided in utilizing classroom references, library materials, radio and TV programs, community functions, resource people, etc., in order to develop the habit of seeking all available information before reaching conclusions.

6. Students should be given definite instruction at the appropriate developmental levels in a number of specific study skills and habits including the following:

a. Study with specific purposes or problems in mind, whether reading, listening, or viewing.

b. Demand understanding when reading; make this the appropriate type of understanding for the purpose—evaluative, detailed, general, predictive.

c. Differentiate the speed of reading in accordance with the purpose and the type of material.

d. Obtain a “whole view” of the selection to be studied by a preliminary skimming, reading of section headings, or other overview techniques.

e. Refine the material to its most significant points by outlining, underlining, or summarizing.

f. Insure retention by reflective repetition, review, self-testing followed by correction, or by practical application. The first review should come soon after the initial study with subsequent reviews distributed progressively further apart.

g. Space the periods of study in the manner that seems most productive for the type of material; rest when fatigued.

h. Learn to read the quantitative data, maps, diagrams, and tabular sections which add to the clarity of a presentation.

i. Utilize the index, the table of contents, the card catalog, reference books, and audio-visual aids that help to extend one’s understanding.

j. Study at scheduled times in places that are conducive to work—reasonably quiet, convenient, private—and work alone during the major part of the time.

7. Study skills are learned best when they are learned in connection with the subject or situation where they are used. Although separate units on how to study are helpful to older students, the most effective learning is related to direct application.

8. Judicious use of homework may strengthen study abilities, if the homework (9):

—has been an outgrowth of well-explained and highly motivated class activity

—involves finding and preparing materials, viewing TV programs, participating in family and community activi-
ties, observing natural phenomena, and having other firsthand experiences
—is reasonable in time requirement, i.e., two or three hours weekly in intermediate grades and four to twelve hours in secondary schools
—is flexibly scheduled to cover a number of days or weeks
—is differentiated to suit various interests and abilities
—is partly voluntary and partly required
—is used to extend rather than to replace thorough classroom instruction.

9. **Deficiencies in study skills and habits can be diagnosed and remedial steps should be taken.** Suitable diagnostic methods include careful observation of work habits, analysis of the work product, individual interviews, and administration of work-study tests that are available.

In conclusion, research findings tell a great deal about how children and youth learn to study. The teacher who is well acquainted with this research will not be carried away by the whims of the public or by the fads of the moment. Students should be given a thorough grounding in the science of study. However, it is the artistry of the master teacher, the ability to develop enthusiasm and insight, that has the greatest effect on the study habits of the learner.

**References**

2. **BROWN, WILLIAM F., NORMAN ABELS and IRA ISCOE.** "Motivational Differences Between High and Low Scholarship College Students." *Journal of Educational Psychology* 45:215-22 April 1954.