This topical paper is one of a series on various facets of reading programs in the junior college. For convenience, this discussion of reading skills is divided into three main categories. The first category, speed-reading, is concerned with visual discrimination associated with rapid recognition of meaning, visual-motor-mental functioning, skimming and scanning, and elimination of faulty reading habits. The second category, comprehension skills, is related to vocabulary recognition, retention of literal and critical content, recognition of main ideas and supporting details, paragraph analysis, recognition of organization patterns, and ability to read creatively, critically and interpretively. The final category, related factors, includes concentration, recall, reading skill in test-taking situations, and the use of library and reference materials. (Author/CA)
SKILL DEVELOPMENT IN
JUNIOR COLLEGE READING PROGRAMS

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FOREWORD

This paper is one of a series on various facets of reading programs in the junior college. Of equal interest to our readers should be Directions for Research and Innovation in Junior College Reading Programs (No. 18 in the list at the front of this paper). No. 21, "Exemplary Practices in Junior College Reading Instruction," will soon be published. The others, whose titles and order in the production schedule are not yet determined, will soon be forthcoming for the reading specialist.

James L. Laffey, Director of the ERIC Clearinghouse on Reading, has the sincere thanks of the Junior College Clearinghouse for selecting the experts to write these papers and for assembling the initial articles. Without his knowledge and help, the series would not have been possible.

Arthur M. Cohen, Director
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Any discourse on reading skills at whatever level is limited to some arbitrary degree by the choice of which skills to include and which not. The literature is replete with lists of skills, and although no two lists are exactly alike, most include at least the following: vocabulary skills, comprehension skills, skills for studying factual materials, and creative reading skills involving a higher order of cognition than literal comprehension (9:12-15).

For this discussion, reading skills have been divided into the following three main categories, with appropriate sub-headings under each: Speed-Reading Skills, Comprehension Skills (including vocabulary), and Related Factors (a miscellaneous category).

Speed-Reading Skills concern visual-motor-mental functioning, visual discrimination associated with rapid recognition of meaning, skimming and scanning, and the elimination of faulty reading habits such as sub-vocalization and regression. Speed-reading skills are included as a major category, not only because of their importance but also because of their popularity and the misunderstandings created by some of the advertisers of speed-reading courses.

Comprehension Skills are related to vocabulary recognition and the retention of literal and critical content, the recognition of main ideas and supporting details, paragraph analysis, the recognition of organizational patterns, and the ability to read creatively, critically, and interpretively.
Related Factors include concentration, recall, reading skill in test-taking situations, and the use of library and reference materials.

For the sake of clarity, the three categories of reading skills will be discussed separately, even though it is important to remember that all aspects of the reading process are interrelated. Speed, comprehension, concentration, and recall, for example, are very closely related. Also, while it has been shown that verbal functioning is closely related to the efficiency of proprioceptive linkages and the adequacy of visual-perceptual inputs, it has also been shown that so-called perceptual abilities are much under the influence of verbal functioning (12). Mann and Phillips point out that there are no clearly defined organismic referents for what we call "abilities" or "skills." They are certainly not processes directly created by specific parts of the brain, nor are they concrete, palpable mental structures that can be divided and trained, as suggested by many proponents of fractional practices (13). It is therefore impossible to separate the reading processes, skills, or abilities into specific categories or sub-areas except for convenience in discussing them.

I. SPEED-READING SKILLS

Modern man seems to be obsessed with speed. We must have faster automobiles, faster jet planes, and faster reading speeds. People read not for the sake of speed, however, but for understanding. Perhaps we should speak of the speed of understanding rather than the speed of reading, since the speed is not an end but a by-product of a complex of reading skills.

Visual Perception. Reading is a visual-motor-mental process with certain basic visual perception skills.
Although minor or even major imperfections in visual acuity do not normally prevent efficient reading (especially if they are corrected by lenses), a combination of serious visual perception deficiencies can be important in the inability of a student to achieve his optimal reading skill.

Some controversy over so-called vision or perception training has arisen largely because of a misunderstanding of terminology. The term “visual perception” as used here should not be interpreted as synonymous with “visual acuity.” Visual acuity is the result of all the sensory-motor actions that take place in the eye to provide a clear light pattern striking the retina. Visual perception, on the other hand, is the result of the quick, accurate alignment of both eyes on the object of regard, the integration in the brain of the information contained in the light received by the eyes, the search for meaning in the memory cells of the brain, and the projection of an appropriate response (7:94). This definition of visual perception indicates that visual perception responses are learned and can be guided, and that visual abilities can be enhanced through training and practice.

In addition to the measurable refractive status of the eye, four visual action patterns are pre-requisite to adequate visual functioning in reading. These are skills in eye movement, eye-teaming, eye-hand coordination, and visual form perception (sometimes called visual discrimination) (7:95). Fortunately, most children are functioning adequately in the visual action patterns by the time they enter school, except for visual discrimination, which needs further development in the learning-to-read process. By the time students reach junior college age, their visual perception patterns have become well established and are difficult to change. To learn to read efficiently, therefore, some students may require re-training in visual and verbal perception patterns.
The eye-fixation patterns of slow readers characteristically show many lengthy fixations per line, usually accompanied by excessive visual regressions, but these are symptoms rather than causes of slow reading. Causative factors may be associated with inadequate visual functioning, poor basic vocabulary, inadequate sight vocabulary, deficient word-attack skills, or simply slow reading habits. If diagnosis indicates that the student has adequate vision, average vocabulary, and adequate word-attack skills, the quality of perception skills may sometimes be improved by tachistoscopic training or other drills. Such training may increase perceptual accuracy and speed and thus increase the potential for improved comprehension speed.

Empirical evidence in support of the effectiveness of visual perception training on the improvement of reading skill is plentiful. It can be found in the writings and findings of such authorities as Kephart (11), Spache (16), Barsch (2), Frostig (8), and others. In the opinions of the writer, such training has beneficial results when properly done and suited to a student's diagnosed needs.

While it is doubtful if an individual's natural eye span can be greatly increased through any kind of practice (19), many authorities hold that it is possible to increase the extent and speed of peripheral recognition through practice. While there is some controversy over so-called visual training using tachistoscopic and other means, national norms have been established by eye photography of subjects in the act of reading. All the data regarding eye fixations, regressions, span of recognition, duration of fixation, and rate are compared with national norms established from over 12,000 cases (19). Without exception, eye-movement studies comparing more effective with less effective readers, however defined, show that the more effective readers make fewer
fixations and regressions, have a larger span of recognition, and have a shorter duration of fixation (18:7-9). All available eye-movement research, however, suggests that we cannot and do not control our eyes in each fixation; we can only direct our eyes along the lines of print in a general way. These findings suggest that we should work toward developing the underlying skills that eye movements reflect, rather than attempt to effect changes in eye movements directly (18). While tachistoscopic and other phrase recognition drills and the use of electric or mechanical reading pacers sometimes result in improvement in reading rate, and while problems of excessive regression may also be alleviated through such practice, the research is inconclusive (5). In addition to visual-motor skill development, general coordination development may be desirable for some students, especially those with problems of laterality or mixed dominance.

**Skimming and Scanning Skills.** Skimming and scanning skill can be very important to a college student or to any adult whose work or profession requires a great deal of reading. The development of skimming skill results in the ability to glance through an article or text passage very rapidly, noting only the main headings and determining the main ideas. Scanning skill results in the ability to find particular facts or bits of specific information by rapidly glancing through printed material. In skimming, the reader is getting the "feel" of the article or passage, noting only the significant points and the main ideas. In scanning, he is looking for only one or more specific bits of information. Both skills can be developed by practice and are well worth the time devoted to them. Much published material, containing ample practice exercises at the college \_\_\_\_\_\_\_\_\_level, is now available.
Improving Speed-Reading Skill by Eliminating Faulty Habits. Most students in the junior college reading class or clinic learn to read faster because they learn to recognize and overcome their faulty reading habits (1:3), including frequent regressions, word-by-word reading, sub-vocalizing, and "auding" or hearing words mentally even though not actually vocalizing them. (It is important to restate that, while such habits may cause slow reading, they are often symptoms of other reading difficulties, and the reading specialist should try to discover and remove their cause before attempting to overcome them.) While published reading texts now contain suggestions and exercises for overcoming such habits, it is important to remember that the junior college student usually has an established verbal habit pattern and that it will take time and patience to break a faulty one. Not only must he develop a silent pattern, but he must also divorce old oral reading habits from those in the new silent reading pattern.

Further Thoughts About Reading Speed. Reading speed is closely related to vocabulary, word-attack skill, comprehension ability, interest and purpose, concentration, prior knowledge of the subject, the mental and physical condition of the reader, and the nature and difficulty of the material. All available research indicates that speed-training should not be offered apart from other skill training, for speed is not independent of these other aspects of the reading process (1:28-39). Moreover, speed cannot be guaranteed by gadgets or systems—it must come from within the reader. At the outset, some mechanical aid such as a reading accelerator or certain procedural systems may help the student break his oral reading habits, but the desire to improve and the effort, practice, and concentration
must be his own. The reading specialist can only point the way and try to arrange a setting for the student to become self-motivated.

II. COMPREHENSION SKILLS

Vocabulary Skills. Lack of an adequate vocabulary is certainly one of the chief obstacles to efficient reading. It slows the reading rate and interferes with comprehension. The National Council of Teachers of English (NCTE), in cooperation with the U. S. Office of Education, recently conducted a comprehensive study of research findings and current practices in vocabulary teaching (15). As with much educational research, the conclusions of this study indicate a need for "further research." Most studies report little superiority of one method or system over another and indicate that a combination of procedures might be better employed than any specific one.

While there are no shortcuts to learning, one type of vocabulary instruction is based on the fact that about 60 per cent of English words are derived from Latin and Greek prefixes or word roots. Mastery of the most frequently used word elements provides a key to the meaning of thousands of English words. Brown, of the University of Minnesota, and others have published programmed materials based on this principle (3). They estimate that, by using a master word list of only 14 words, up to 100,000 standard English words can be formed.

Research on the efficiency of such a procedure (as reported in the NCTE study) is inconclusive except as it accompanies other types of vocabulary instruction. The study indicates that the best way to improve vocabulary is many-faceted and includes wide reading, the use of context clues, keeping word lists, word analysis,
and the use of audio-tapes in a program involving auditory, visual-motor, tactile, and kinesthetic modalities of perception (15).

Word-Attack Skills Related to Comprehension. Word-attack skills include word recognition by sight and through context clues, phonetic and structural analysis, and configuration. Many college students deficient in word recognition and word-attack skills understand more spoken words than written or printed words. They can be helped through instruction in the phonetic and structural analysis of words. Sometimes this difficulty is related to an auditory deficiency, more often a frequency loss than a decibel loss. The Wepman Auditory Discrimination Test is a simple means of checking a student's auditory discrimination and, although designed for younger children, the test is also useful for adults (20). In all cases where hearing deficiency is suspected, the student should be referred to an audiologist.

Although little research has been done on the importance of phonics instruction for junior college students, an earlier survey by this author showed that nearly all junior college reading specialists emphasized the importance of phonics instruction for the many students who lack this important word analysis skill (6). Since the 1930s, most of the basic readers in use have emphasized sight vocabulary and meaning over phonetic analysis in learning to read (4). Consequently, it is not surprising to find students at the junior college level lacking in phonic skills.

Comprehension Related to Reading Speed. As stated before, comprehension and speed are related to each other and both are related to concentration. Again, comprehension is not necessarily promoted by slow reading, although some types of technical reading require a
slower pace than that required for narrative material.

Improvement in reading rate is usually accompanied by improved comprehension, because a rapid rate makes it easy to follow the author's train of thought. By reading rapidly the reader is less likely to get bogged down than by plodding along slowly, word by word. Moreover, rapid reading narrows the time lag between reading speed and thinking speed, leaving the mind less free to wander, and thus promotes concentration and comprehension.

**Previewing.** Comprehension is aided by noting topic headings and sentences before attempting detailed reading. In previewing, the student will have some idea of what to look for before he actually begins to read. It is an aid to understanding, similar to studying the completed picture before working a jigsaw puzzle.

**Reciting and Summarizing.** Comprehension and recall are promoted by frequent reciting and summarizing. These serve as a check on comprehension because, if the reader cannot summarize the material in his own words, he does not really understand what he has read.

**Analyzing Paragraph Structure.** Since the way an author writes follows his thinking patterns, an analysis of paragraph structure can serve to promote comprehension. Students should be given instruction and practice, therefore, in paragraph analysis, for which there is no lack of published material.

**Other Comprehension Skills.** Comprehension skills include the ability to find and understand main ideas and supporting details, examples, reasons, or illustrations; to relate supporting details to main ideas; to understand the sequence of ideas and events; and to see cause-and-effect relationships. They also include the ability
to establish a purpose for reading and to adjust to the purpose and the nature of the material, as well as skill in following directions and in evaluating, organizing, and using information.

There are several levels of comprehension beyond the literal understanding of information. Creative reading skills involve the ability to form conclusions and make inferences, to select information appropriate to solving a problem, to identify purposes, and to distinguish between fact and opinion or between relevant and irrelevant information.

Effective Listening as an Adjunct to Developing Comprehension Skills. To help develop comprehension skills, the writer has used the effective listening skills program developed by Xerox Corporation (21). In the program, the student is presented with a taped series of statements graded in length and complexity. They require him to summarize the content, either orally or in writing, by cutting through distractions such as emotion, disorganization, speaker bias, and irrelevant digressions—in other words, to find the critical content of a statement.

Many students have reported that training in effective listening has also helped them in their reading. Since our first language learning is oral, it seems logical to start with listening experiences to train students in the selection of main ideas and supporting details, to analyze and organize statements, and to discriminate between the relevant and the irrelevant. Students are quite convinced of a significant carry-over from listening skills to their ability to read for critical content and to analyze and organize what they read. It seems logical to believe that this is so and therefore that it is reasonable to introduce listening skills near the start of the reading program (14:10:308).
The SQ3R Reading-Study System. Nearly all reading teachers are familiar with the SQ3R reading-study system. The letters stand for Survey, Question, Read, Recite, and Review. By rapidly surveying the material to be read before actually reading it, the student gets an overview of "what it's all about." By questioning, he determines a purpose for reading and is looking for answers to questions as he reads. By pausing to recite, he clarifies his understanding through putting main ideas and important details into his own words. By recitation and review, he helps fix information in his mind for future use.

III. RELATED FACTORS IN READING SKILL DEVELOPMENT

Concentration. An ability to concentrate is a problem for many readers. One reason is the difference between reading speed and mental speed. When one reads slowly, the mind has time to wander off the subject. Concentration can be improved by a conscious effort to read more rapidly and alertly. It can also be promoted by choosing questions to be asked of the material before actually reading it. Having a purpose for reading always helps promote concentration. Another way to improve concentration is to eliminate distractions, both external and internal, and to arrange a controlled environment, as free as possible from intrusive stimuli. It is also promoted by developing a "mental set" for studying a particular subject at a specified time and place.

Dealing with internal distractions is more difficult than arranging a distraction-free reading environment, but several techniques can help. Chores or small tasks, phone calls, and the like that may be on the mind should be attended to before sitting down to read. A task or problem that does not lend itself to a quick or easy solution may be written out in summary form to relieve
Recall. Many students complain that they read with reasonable speed and comprehension but have difficulty remembering what they read. Such students probably do not read well to begin with, but if their other reading skills show improvement, they are likely to experience better recall. Of the SQ3R reading-study techniques, learning to recite and review is probably the best overall way to assure recall.

Recall can also be promoted by helping students relate ideas to everyday experiences. They need help in learning to relate isolated bits of factual information to general concepts or to associate facts with other information in such a way that they form an organized structure or pattern.

Reading Skills in Test-Taking Situations. In test-taking situations, reading is an important factor. Frequently the slow reader’s test paper may be a poor indicator of what he knows, for he has neither had time to finish the test nor understood the question or the instructions.

The reading instructor or clinician needs to give the student instruction and practice in taking tests. Frequently he also needs practice in understanding typical test questions involving such terminology as "explain," "describe," "discuss," "compare," "contrast," "define," and "criticize."

Library Skills. Inefficient readers have not usually acquired skill in using the library and reference materials. As a consequence, many need basic instruction in the book cataloging system and practice in the use of the card file and periodical indexes. Skimming and scanning skills can be developed through practice in the library. Unless
skillful use of the library is being taught in the regular English curriculum, it should be included in the reading program.

The test of the college reading program lies in its results. It is not enough to measure improvement in reading speed and comprehension through tests administered in the reading class or clinic. The real measure of the effectiveness of the college reading program is what the student does outside the class or clinic. If the program has been effective, he will have begun to read more widely on his own, to get more out of what he reads for the time and effort spent, to enjoy reading, to show improvement in other classes, and to get better grades.

People tend to enjoy what they do well and to avoid what they do not do well. The inefficient, slow reader cares very little about reading, but when he becomes a good, fast reader, his confidence increases, his attitudes change, and his problems decrease. Not only does his over-all achievement level rise, but he can undergo a marked personality change as well.

College reading teachers have a marvelous opportunity to open the windows of the world to students through improved reading skills. Indeed, in this respect, the college reading teacher may well be the student's last, best hope.
BIBLIOGRAPHY


