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ABSTRACT
                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

C. J. Dintelman

TOPICAL PAPERS

1. A Developmental Research Plan for Junior College Reme-
   dial Education. July 1968. Out of print. ED 022 479.

2. A Developmental Research Plan for Junior College Reme-
   dial Education; Number 2: Attitude Assessment.
   November 1968. Out of print. ED 026 050.

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   Judicial Guidelines. December 1968.

4. Students as Teachers. January 1969.

5. Is Anyone Learning to Write? February 1969.

6. Is It Really a Better Technique? March 1969. Out of
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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 Instruc-
tion," will soon be published. The others, whose titles
and order in the production schedule are not yet deter-
mined, 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.

<div align="right">

Arthur M. Cohen, Director
ERIC Clearinghouse for
Junior Colleges

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SKILL DEVELOPMENT IN JUNIOR
COLLEGE READING PROGRAMS

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 vocabu-
lary), 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 popu-
larity 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 organi-
zational patterns, and the ability to read creatively,
critically, and interpretively.

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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 func-
tioning is closely related to the efficiency of proprio-
ceptive 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 function-
ing (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 conven-
ience 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 (espec-
ially if they are corrected by lenses), a combination
of serious visual perception deficiencies can be import-
ant 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 per-
ception, 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 mean-
ing 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 coordina-
tion, 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 dis-
crimination, 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.

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The eye-fixation patterns of slow readers character-
istically show many lengthy fixations per line, usually
accompanied by excessive visual regressions, but these
are symptoms rather than causes of slow reading. Caus-
ative 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 train-
ing or other drills. Such training may increase percep-
tual 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 bene-
ficial results when properly done and suited to a stu-
dent'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 recog-
nition 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

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fixations and regressions, have a larger span of recog-
nition, 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 fixa-
tion; 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 tachis-
toscopic and other phrase recognition drills and the
use of electric or mechanical reading pacers sometimes
result in improvement in reading rate, and while prob-
lems 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 later-
ality 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.

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Improving Speed-Reading Skill by Eliminating Faulty
Habits. Most students in the junior college read-
ing 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 over-
coming 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 de-
velop a silent pattern, but he must also divorce old
oral reading habits from those in the new silent read-
ing pattern.

Further Thoughts About Reading Speed. Reading speed
is closely related to vocabulary, word-attack skill,
comprehension ability, interest and purpose, concen-
tration, prior knowledge of the subject, the mental
and physical condition of the reader, and the nature
and difficulty of the material. All availale research
indicates that speed-training should not be offered
apart from other skill training, for speed is not in-
dependent of these other aspects of the reading process
(17:28-39). 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 read-
ing. 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 vocabu-
lary is many-faceted and includes wide reading, the use
of context clues, keeping word lists, word analysis,

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and the use of audio-tapes in a program involving audit-
ory, 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 struc-
tural analysis of words. Sometimes this difficulty is
related to an auditory deficiency, more often a fre-
quency loss than a decibel loss. The Wepman Auditory
Discrimination Test is a simple means of checking a stud-
ent'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 im-
portance of phonics instruction for junior college stud-
ents, 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 pho-
netic 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 be-
fore, comprehension and speed are related to each other
and both are related to concentration. Again, compre-
hension is not necessarily promoted by slow reading,
although some types of technical reading require a

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slower pace than that required for narrative material.
Improvement in reading rate is usually accompanied by im-
proved comprehension, because a rapid rate makes it easy
to follow the author's train of thought. By reading ra-
pidly 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 head-
ings 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 com-
pleted 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 understnad what he has read.

Analyzing Paragraph Sturcture. 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, there-
fore, in paragraph analysis, for which there is no lack
of published material.

Other Comprehension Skills. Comprehension skills in-
clude the ability to find and understand main ideas and
supporting details, examples, reasons, or illustrations;
to relate supporting details to main ideas; to under-
stand 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, organ-
izing, 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 dis-
tinguish between fact and opinion or between relevant
and irrelevant information.

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

Many students have reported that training in effect-
ive listening has also helped them in their reading.
Since our first language learning is oral, it seems log-
ical to start with listening experiences to train stu-
dents 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 listen-
ing skills to their ability to read for critical content
and to analyze and organize what they read. It seems log-
ical 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 SO3R Reading-Study System. Nearly all reading
teachers are familiar with the SQ3R reading-study sys-
tem. 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. Concentra-
tion can be improved by a conscious effort to read more
rapidly and alertly. It can also be promoted by choos-
ing questions to be asked of the material before actu-
ally 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

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the mind and promote concentration.

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 informa-
tion to general concepts or to associate facts with
other information in such a way that they form an organ-
ized 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 ac-
quired 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 admin-
istered 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 atti-
tudes 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 oppor-
tunity to open the windows of the world to students
through improved reading skills. Indeed, in this re-
spect, the college reading teacher may well be the stu-
dent's last, best hope.

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