This teacher education instructor's manual begins with some assumptions about reading and reading achievement and with recommendations for the course instructor. The major portion of the manual describes activities to help teachers match students and materials, master prereading skills to help teach reading in content areas, and understand the processes involved in reading comprehension. These activities are followed by a bibliography of information sources available to teachers. A list of resources used in the course concludes the manual. (HTH)
Instructor's Manual for
Advanced Instructional Techniques:
Teaching Content Through Reading
in the Secondary School

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Introduction

Overview:

The linear structure of print tends to make complex processes seem overly simple and sequential; thus such notions as, "Electricity flows through a wire as water flows through a pipe," or, "The circulatory system is a separate system in the body," or, "You have to know the meaning of every word in a sentence before you can get any meaning from the sentence."

Reading, a complex process, may be analyzed in such a linear fashion as long as synthesis follows the analysis. If readers synthesize meaning (the intended meaning or not) from marks on the printed page, then reading instruction must deal with the whole values of comprehension, with putting together what is on the page with what goes on in the reader's mind. Word knowledge is a key to comprehension, but it is not comprehension itself. Nor is any one of the other skills of reading: recognizing main ideas and details, making inferences, understanding structure, understanding tone.

If the teacher remembers that things may be introduced one at a time, but must be used in concert, he will be better prepared to help his students to read better. If the instructor of this course will remember that each aspect of the course must be considered as it relates to the others, he will be better prepared to help teachers to help students.

Assumptions:

1. Reading is an active or transactive process, not a passive one.

2. The subskills of comprehension are few: word attack and
acquisition, sensitivity to passage structure, finding main ideas and details, drawing conclusions or inferences, and sensitivity to tone.

3. Rates and methods of language development are not uniform, but the sequence in which we develop language skills seems to be, from simple to complex, from lower order of comprehension to higher.

4. Reading processes can be learned in parallel fashion. It is not necessary to master one skill or process before the learning of the next one can begin.

5. Faster readers pick up more information per fixation and then process it more rapidly, especially the higher-level information, which in turn allows them to use context clues more effectively.

6. The "conversation" between the reader and the printed word, that internal dialogue, is necessary to achieving the higher levels of comprehension, i.e., critical thinking.

7. Reading instruction should not be isolated from content instruction; by relating the form and purpose of communication to its content, all language communication skills -- reading, writing, speaking, listening -- are teachable through content.

8. The time to learn and study is before and during reading, and not just after reading. Ten minutes of preview is worth thirty of review.

9. Teaching communication skills is not an extra job for teachers; it is the job.

10. Effective teaching, like effective reading, must have pre-reading, reading, post-reading, evaluation, and follow-up activities. As no single strategy is effective with every student
in every class, a teacher with a command of a broad range of strategies is more likely to be successful than one who has only one way to do things.

11. In the absence of strategies of application, much knowledge is not particularly useful. The ideas you find here are not really new, but using them systematically might be.

12. If an individual is to be independent, he needs three types of information:
   a. general information about his goal, where he is going;
   b. specific information about his progress, how successfully he is getting there; and
   c. both general and specific information about his methods or techniques, why his last move did or didn't work, and what his next move should be.

13. The divisions and order of presentation of this course are not sacred. As there are many views of reading, there are many ways to organize reading instruction. I have found it useful to start with an overview and then work through the materials and activities in the order a teacher might use for a lesson plan:
   a. the problem -- goals and objectives
   b. diagnosis
   c. pre-reading
   d. comprehension, questioning, evaluation, and follow-up.

14. Behavioral objectives for students are conspicuously absent, and with reason. A teacher must have the kinds of information outlined above (in #12) about his students, but in content courses, reading will be a means, not necessarily a goal. By matching the requisite reading skills or performances with content objectives,
the content teacher teaches not just content, not just reading, but content through reading. He does not have to be a reading expert to do this, any more than I have to be an automotive engineer in order to drive my car or to teach others to drive it.

I have not encountered a reader -- regardless of age, experience, or intelligence -- who was reading at his full potential, who could not benefit at all from instruction. This is not to say that such people don't exist. They may, but they must be rare. Even the best athletes benefit from coaching.

Recommendations:

1. Start with purpose and concepts, and present details as they relate to purpose and concepts.

2. With the baseline data from the pre-test package, assess teachers' attitudes toward, knowledge of, and skill in employing reading techniques. Meet teachers where they are.

3. Establish minimum and maximum objectives and have resources readily available for those who wish to do the maximum (or more). Provide a range of additional materials and activities, some of which might not be used. Additional materials from the bibliography could be made available if no professional library resources are accessible.

4. Emphasize skill and transfer of skill; awareness and knowledge (names of things) are less important, and attitude comes when it will.

5. Keep groups within the class small, from 5-10 people. Fewer than five may put too much pressure on one person, and more than ten allows little contribution from each.

6. As much as possible, spend class time working on developing
materials and techniques, and use discussions rather than lectures to elicit desired concepts.

7. Use books and other materials actually used by each teacher in the course, and use real and relevant examples in favor of hypothetical ones. Selecting materials, since it is not always the province of the individual teacher, seems to be less important than making the most efficient use of materials now employed.

8. Use formative evaluation to make decisions about the nature, pace, and order of procedures.

9. Subjective evaluation based on observation is going to play a large role in providing information for making decisions and evaluating teacher performance.

10. If grades are necessary, develop a scheme for evaluating individual performance. Based on the objective (or an adaptation of it), course grades could be made on either a comparison or criterion basis. Pre- and post-test comparisons could be employed, as well. My principal criterion is this: for each part of the objective, the teacher did/did not develop materials or skills which are likely to result in more effective instruction. I don't believe there is a simple, objective means of making this determination; rely on your judgment.
Overview: The need for teaching content through reading.

Materials:

"The Reading Problem in the Secondary School" (1)

"What's the Status of Study Skills in Your School?" (2)

Pre-test package (3)

Objective (3)

Activities:

1. Distribute the pre-test materials and ask that they be completed, in order, within 60-75 minutes. This is diagnosis; you must determine teachers' attitudes and levels of knowledge and skill as part of your course planning.

2. Ask teachers to read both articles and note points of agreement and disagreement for later discussion. From their experience, what comments are relevant to their own teaching situations?

3. In groups of 5-10, have them discuss their reactions to the articles. Comments made in small groups may then be related to the class during a summary discussion, which would then move to the course objective and then a casual "walk" through the contents of the resource book. You may wish to talk about some of the assumptions upon which the course is based.

Assignment:

Each teacher should select one course (class) for which to prepare materials. A copy of all print materials for this course should be brought to future sessions. Within the course, one unit should be selected for intensive work.
Diagnosis: Matching students and materials at independent, instructional, and frustration levels.

Materials:

- Difficulty factors (3)
- Measures of readability (4)
- Fry graph (28)
- Readability procedure (29)
- Cloze research (30)
- GIRI (31)
- Selecting materials (7)

Activities:

1. Regarding materials, state the point made in recommendation #7. Item #7 will give some guidelines for those who have a choice in what materials will be used. This should be a useful lead into diagnosis, determining how the materials are going to be used.

2. After teachers have an opportunity to read item #30, explain how the ability to complete a thought in context is a measure of reading power, and then give these instructions for constructing a cloze test:
   
a. Choose three passages of 275-300 words from the beginning, middle, and end of a text.
   
b. Leaving the first sentence intact, delete every 5th word and substitute a blank, until there are 50 blanks. Add one more intact sentence.
   
c. Administer tests to students on different days (for the purposes of this course, one administration will be enough). Allow 30-40 minutes per administration, as this is a power test, not a speed test.
d. In scoring, count as correct only the exact word deleted (misspellings allowable). Calculate the percentage of correct responses for each student, and average them if there are multiple administrations. Score ranges are as follows:

- independent level - above 60%
- instructional level - 40-60%
- frustration level - below 40%

Emphasize that these are score ranges, and not exact cutting scores, and that three administrations give much more reliable estimates than will one.

e. Rank students from highest percentage to lowest, and draw conclusions about applicability of textual materials to individuals and the group.

3. Item #31 explains the procedure for and uses of the group informal reading inventory, which should be used in conjunction with the cloze test. Scores from the GIRI can be combined with scores from the cloze test to derive averages by which students can be ranked for grouping purposes (explained below). The usefulness of the print materials can then be assessed. You may wish to have teachers draw conclusions individually or in small groups.

4. After a look at items #4 and #9, teachers can use items #28 and #29 to estimate the readability of their print materials, as measured in grade levels. Emphasize that these are estimates, and that they are more useful for comparing works than for determining the exact level of applicability for a given text.

5. For homogeneous grouping within a class, divide the rank order of students into thirds. For heterogeneous grouping, which
is sometimes preferable for purposes of peer tutoring, groups of three are made by putting the top name in each third into one group, the second name in each third into another, etc. A class of 90 would find students 1, 11, and 21 in one group. Groups can then be adjusted so that no group has three males or three females. Classes not evenly divisible by three will use one or two groups of two students for the balance.

6. Teachers might be asked to write brief reports which outline their conclusions about the appropriateness of textual materials for their classes. Reports would end with recommendations about instruction: Given the conclusions I have reached, how will I structure my teaching?
Pre-reading: words, skills, and assigning.

Words:

Materials:

Word-analysis skills (24)
Science morpheme glossary (25)
Connectives and conjunctions (26)
Morphemes (27)

Activities:

1. If mastery of content is not possible without mastery of the language of that discipline, then word knowledge and word-acquisition skills are keys to understanding. Item #24 gives skill classifications. These can be used for diagnostic purposes if the teacher is interested in teaching the skills, per se, or for pre-reading if the teacher wishes to consider the requisite skills for a reading assignment.

The basic premise here is that knowledge of morphemes and affixes allows decoding of many thousands of words. If the teacher compiles a master vocabulary list for his course, the vocabulary for each unit can be presented in the context of the entire list. Another helpful device for vocabulary building is the morpheme/affix glossary represented in item #25. #27 shows how universal is the usefulness of this approach. Morphemes and their applicability in various content areas are indicated by examples on the chart.

A similar chart could be constructed to represent words which have different meanings in different content areas. The meaning of a word such as "root" or "radical" depends on the context of its use.
Connective words are also important, for they signal relationships between and among ideas. It may seem too obvious to mention that "on the other hand" signals a change in thought, while "moreover" signals a continuation of thought, but immature readers do not always see such distinctions clearly. #26 gives information about the incidence of connectives and conjunctions by overall frequency and by subject area.

Each teacher will compile a master word list and a master morpheme list for his course of concentration. Words should then be grouped under appropriate headings, so that degrees of abstractness or generality are clear. Thus, a word outline is developed. This will, most likely, parallel the course's topic outline, which will be drawn up in the assigning section.

2. A unit word list will be taken from the master list to be used for a pre-reading activity to introduce concept-words and detail-words.

3. The morpheme list can be used in a variety of ways. The Burmeister book listed in the word section of the bibliography outlines many useful devices to encourage and reinforce morpheme acquisition.

4. Almost every book listed in the general section contains at least one chapter about vocabulary, and so the teacher who wishes to investigate further will have no difficulty finding information.

5. The structure words from #26 can also be used for either diagnostic or pre-reading purposes.

6. Vocabulary knowledge can be measured on its own or as part of a larger test. I would suggest that the best vocabulary tests ask students to use words at various levels of difficulty, from
simple definition (alone or in context) to more general questions for which word knowledge is a prerequisite.

Skills:

Materials:

Reading study skills (17)
Skills by content areas (18)
Skills chart (19)

Activities:

1. As was true of some of the above materials, the materials in this section can be used for diagnostic and for pre-reading purposes. Items #17 and #19 list skills and subskills required for various assignments in content areas, and #18 gives specific aims and activities for introducing and reinforcing the skills needed in each content area. The existence of the distinctions between some subskills may be arguable, but the lists still serve to identify the types of tasks students must perform.

Using items #17-19, each teacher will prepare a list of skills required for the entire course and for the unit within the course. Instruction in these required skills should then be incorporated into the assigning part of the unit plan.

Assigning:

Materials:

Concept learning (9)
Curriculum report (10)
Preparation for reading (11)
Preparing overviews (12)
Using instructional time (14)
Directed reading assignment (20)
Activities:

1. Items #9-12 and #14 stress the overview process: make clear the purposes and the goals of the unit and the course before plunging into details. While #14 is, in itself, an overview, items #9-12 give background and procedures for making assignments effectively.

For the course of concentration and for the specified unit within the course, each teacher will prepare a structured overview which shows the relationships among the parts. Samples of course overviews developed by teachers from various content areas are included for comparison purposes.

2. #20, taken from Russell Stauffer, could be a course in itself. The directed reading activity incorporates virtually all of the concepts of this course, from diagnosis to follow-up. It could be used in complementary fashion with the course objective in the introduction of this course.

Experienced teachers will find little new here, at least in theory. However, to consistently employ sound techniques in planning and conducting each course of instruction may be new. At first, the employment of such instructional techniques is time-consuming to the point of discouragement. You might point out some of the benefits or rewards which accrue to such an investment of time:

a. When one is accountable, it takes less time to do things properly than to do otherwise. Whether you hope to thread a needle or to teach students to write, some methods work better than others.

b. The time spent in preparing can be saved from reshaping and reviewing what wasn't done well the first time.
at increasing levels of difficulty and comprehension. The unit evaluation questions will be drawn from this group, and then a unit exam will be constructed.

2. Once the desired outcome has been established (the exam), the teacher can now write:

a. enabling questions whose answers lead to higher-level questions.

b. problem-focus questions with which to introduce the unit by setting the purpose for reading and investigation.

Students must have practice in using details as a basis for making inferences, and in using both details and inferences as bases for making judgements.

Follow-up:

Activities:

1. This category has two parts. One type of follow-up is accomplished by the careful organization of the entire course. If instruction is planned, one unit does lead to another, and skills introduced are reinforced and mastered in this natural course of events. For this type of follow-up, no separate instructions are required; plan the course well, and the sequence will be there.

2. The other part of this category concerns the preparation of additional resources and activities for further study -- study in greater depth within a discipline, or in greater scope across disciplines.

Almost any of the general works in the bibliography can give teachers ideas about such activities, which can be done individually, in small groups, or as a class project.
I prefer the type of follow-up activity which asks the student to transfer knowledge and skill from one area to another. In an English class, a student might take an incident from a unit on fiction and write a newspaper account of the event. An ecology unit in science might lead to an editorial or a film about local conservation practices.

Possibilities are unlimited, but the teacher must plan these activities in much the same way as course units are planned: careful assessment must be made of the communication skills necessary for completing the activity, as well as of the requisite content knowledge and skills.
General


Burron, Arnold, and Claybaugh, Amos L. Using Reading to Teach Subject Matter. Charles E. Merrill, Columbus, Ohio, 1974


Courtney, Leonard. "Are We Really Improving Reading in the Content Fields?" International Reading Association Conference Proceedings, April, 1968, pp. 18-34.


Early, Margaret. "Important Research in Reading and Writing." Phi Delta Kappan, January, 1976, pp. 298-301.


General (cont.)


General (cont.)


Comprehension


Comprehension (cont.)


Stoodt, Barbara T. "The Relationship between Understanding Grammatical Conjunctions and Reading Comprehension." Elementary English, April, 1972, pp. 502-504.

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Vocabulary


Cushenberry, Donald C. "Effective Ways of Building Vocabulary in Every Content Area." Reading Horizons, Winter, 1978, pp. 142-144.


Assigning


Skills

Castallo, Richard, and Butkins, Valerie. "Facilitating Reading Success by Use of a Chart that Matches Skills to Task." Reading Improvement, Spring, 1975, pp. 27-29


Estes, Thomas H. "Teaching Effective Study Reading." Reading Improvement, Spring, 1971, pp.11-12, 20.


Evaluation


"Degrees of Reading Power." The University of the State of New York, Division of Educational Testing, Albany, 1977.

Selecting Materials


Questioning


Diagnosis


Journals

Elementary:

**Elementary English:** articles on reading, writing, children’s authors, professional news, book reviews.
National Council of Teachers of English
1111 Kenyon Road
Urbana, Illinois 61801 8 issues/$12

**The Reading Teacher:** articles on all aspects of reading education.
International Reading Association
800 Barksdale Road
Newark, DE 19711 8 issues/$15

Secondary:

**The English Journal:** articles on language, literature, writing, materials, teaching trends, book reviews.
NCTE (above) 9 issues/$12

**The High School Journal:** articles on all aspects of secondary education.
University of North Carolina Press
Chapel Hill, North Carolina 27514 8 issues/$11

**The Journal of Reading:** articles on improving reading instruction in secondary schools and college.
IRA (above) 8 issues/$15

**National Association of Secondary School Principals Bulletin:** articles on current educational issues of interest to principals and other educators.
The Association
1201 16th Street, N.W.
Washington, D.C. 20036 8 issues/$15

All levels:

**Reading Improvement:** articles on all aspects of reading.
Box 125
Oshkosh, Wisconsin 54901 3 issues/$5

**Education Digest:** condensations, reprints, reviews.
Prakken Publications, Inc.
416 Longshore Drive
Ann Arbor, Michigan 48107 9 issues/$6
All levels (cont.)

**Phi Delta Kappan:** articles on research, current issues in education.
Eighth Street and Union Ave.
Bloomington, Indiana 47401  
10 issues/$6.50

**Reading Research Quarterly:** articles featuring documented research on reading.
IRA (above)  
4 issues/$15
In addition to books and periodicals, other information sources and services are available to the educator. There are manual and computerized files, national and regional information systems, abstracts, bibliographies, and many other types of sources. The Information Sources and Services in Education booklet (listed in the general section of the bibliography) contains an excellent overview of sources, services and strategies for use. It is available from the publisher for $.75 per copy:

Phi Delta Kappa
Eighth and Union
Box 789
Bloomington, Indiana 47402
Resource List

1. The Reading Problem...(Ley)
2. Study Skills...(Marshak)
3. Reading Difficulty Factors (Author's)
4. Measures of Readability (Aukerman)
5. Levels of Comprehension (Gray)
6. Responses to Reading (Hafner)
7. Selecting Materials (Page & Pinnell)
8. Problems Encountered (Burron & Claybaugh)
9. Concept Learning (Olin)
10. Assigning (Pavlik)
11. Preparation for Reading (Vacca)
12. Overviews (Campbell)
13. Comprehension (Page & Pinnell)
14. Using Instructional Time (Burron & Claybaugh)
15. Understanding Structure (Shepard)
16. Patterns by Content Areas (Herber)
17. Reading Study Skills (Burron & Claybaugh)
18. Skills by Content Areas (SUNY's Reading in Secondary Schools)
19. Skills Chart (Castallo & Butkins)
20. Directed Reading Activity (Stauffer)
21. Importance of Questions (Brunner & Campbell)
22. Alternatives to Questions (Dillon)
23. Questions of Increasing Difficulty (Harker)
24. Word-analysis Skills (Hafner)
25. Science Morpheme Glossary (Author's)
26. Conjunctions and Connectives (Stoodt, Rodgers)
27. Morphemes (Burmeister)
28. Readability Graph (Fry)
29. Readability Procedure (Author's)
30. Cloze Research (Jongsma)
31. Group Informal Reading Inventory (Dishner & Readence)
32. Objective
33. Pre-test/Post-test Package

Author's note:

Most items on the resource list are excerpts or adaptations from separately copyrighted works. Hence, the materials represented on this list are not appended. Rather, each item is referenced to its source by author's surname, allowing the reader to consult the original for specifics or for further information.