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AUTHOR        Morgan, Mary
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ABSTRACT
        Focusing on content area reading in secondary
education, this annotated bibliography contains references to 29
articles and papers in the ERIC database, dating from 1987 to 1989.
The citations include articles discussing computer-assisted
strategies, and reading strategies in math, science, and social
studies. Other citations include articles describing reading
strategies applicable to all content areas. (MM)

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# Content Area Reading in Secondary Education

*by Mary Morgan*

**FAST Bib No. 26 RCS**

"There is growing evidence that U.S. secondary school students do not have the reading or study skills needed to comprehend the material in content area textbooks." (Jones, 1988) Although reading instruction is traditionally considered a subject for the English classroom, instructors in all disciplines are increasingly concerned with teaching strategies to improve their students' text comprehension.

This ERIC *FAST Bib* is devoted to practical teaching strategies for content area reading at the secondary level. Following a brief overview and a section on computer-assisted reading strategies, three sections focus on strategies in specific content areas—mathematics, science, and social studies. The core of this *FAST Bib* then provides general strategies for reading instruction which are applicable to all content areas.

Abstracts for some of the articles cited here have been abbreviated to conform to the *FAST Bib* format. The ED numbers for sources included in *Resources in Education* have been included to enable the user to go directly to microfiche collections, to order from the ERIC Document Reproduction Service (EDRS), or to go to *RIE* for the full abstract on those sources not available through EDRS. A few of the most current references on this list have not yet been assigned an ED number. If a document has a CS number rather than an ED number, look in *RIE* or the ERIC database to find the corresponding ED number. To order from EDRS, the ED number must be provided. The citations to journals are from the *Current Index to Journals in Education*, and these articles can be acquired most economically from library collections or through interlibrary loans. Reprint services are also available from University Microfilms International (UMI) and from the Original Article Tearsheet Service (OATS) of the Institute for Scientific Information.

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## Overview

Alvermann, Donna E., ed.; and others. *Research within Reach: Secondary School Reading: A Research Guided Response to Concerns of Reading Educators.* (Revised). International Reading Association, Newark, DE, 1987. 201 p. [ED 282 187]
*Focusing on how secondary school reading programs can be organized and on how their effectiveness can be measured, this book synthesizes reading research in several significant areas and makes concrete suggestions for using this research to improve reading instruction in content areas.*

Jones, Janet Craven. "ERIC/RCS: Reading and Study Skills: Problems in the Content Areas," *Journal of Reading*, v31 n8 p756-59 May 1988.
*Discusses possible causes of the lack of good reading and study skills among U.S. secondary school students. Describes several techniques for improving these skills.*

Monahan, Joy N. "Commentary: Secondary Teachers Do Care...!" *Journal of Reading*, v30 n8 p676-78 May 1987.
*Discusses content area concerns for secondary teachers. Presents two ideas to help teachers build the bridge from research findings to content classrooms: 1) an inservice plan that specifically teaches content teachers strategies which they, in turn, can use with students; and 2) the use of action research in the classroom.*

## Computer-Assisted Strategies

Phelps, Stephen; Smith, Lawrence L. "Microcomputer Applications for Content Area Vocabulary," *Reading Horizons*, v29 n2 p103-09 Win 1989.
*Describes the use of microcomputers to enhance vocabulary instruction in content teaching. Reviews the types of software available.*

Willing, Kathlene R. "Computer Simulations: Activating Content Reading," *Journal of Reading*, v31 n5 p400-09 Feb 1988.
*Four field tests of Canadian software show that computerized interactive fiction teaches both history and independent reading/study skills.*

## Reading Strategies: Math and Science

*Improving Students' Understanding of Math Word Problems.* Oklahoma State Dept. of Education, Oklahoma City, OK, 1988. 12 p. [ED 296 892]
*Suggests a four-stage framework which students can apply to math problems and includes suggestions for each of the four stages of the problem-solving process. Discusses briefly nine other specific techniques. Includes exercises for teachers, sample work sheets for students, and a bibliography on problem solving.*

Lloyd, Carol V.; Mitchell, Judy Nichols. "Coping with Too Many Concepts in Science Texts," *Journal of Reading*, v32 n6 p542-45 Mar 1989.
*Describes a method of ranking the concepts in science texts in terms of these criteria: importance to the curriculum and student interest; the development of the concept in the text; and the level of background knowledge expected of students. Argues that these ratings should guide instruction.*

Muth, K. Denise. "Research and Practice: Comprehension Monitoring: A Reading-Mathematics Connection," *Reading Research and Instruction*, v27 n3 p60-67 Spr 1988.

> Suggests a way of helping students apply their reading skills to solving math word problems. Claims comprehension monitoring is a set of skills that can be applied to both reading and math problem solving helps students integrate their reading skills with their computational skills.

Siegel, Marjorie; and others. *A Critical Review of Reading in Mathematics Instruction: The Need for a New Synthesis*, 1989. 15 p. [CS 009 446]

> Reviews the literature on reading and mathematics and calls for a new synthesis which views reading as a mode of learning, focusing not on the acquisition of techniques but on the process of doing mathematics and the more humanistic aspects of the discipline. Identifies four alternative frameworks for the problem of "reading" mathematics.

## Reading Strategies: Social Studies

Adomanis, James F.; Schulz, Constance. "Using Document Reading Activity Packets (DRAP) in the Classroom," *OAH Magazine of History*, v2 n4 p33-41 Fall 1987.

> Reviews a Document Reading Activity Packet (DRAP) concerning around the "Fort Washington Incident" of the War of 1812 and the resulting court martial of Captain Samuel T. Dyson. Explains that this exercise is designed to stimulate students' interest in their own state histories as well as to pique their curiosity for further research.

Gray, Mary Jane. "One Route to Success in Reading History: The Goal Frame," *Social Studies*, v78 n6 p258-59 Nov-Dec 1987.

> Identifies the "goal frame" as a method of text analysis which calls upon students to establish a purpose for reading. Provides an example in which students read a passage about Alexander the Great to determine his goals, plans, actions, and results. Concludes that this approach allows students to develop better comprehension and organizational skills.

Miller, Etta; and others. "One Dozen Ways to Turn Them on to Reading," *Social Education*, v51 n7 p486-87 Nov-Dec 1987.

> Suggests twelve strategies for helping students read social studies material with greater comprehension. The strategies include simulations, debates, documents, oral histories, current events, and differing accounts of history.

Smith, Richard J. "A Study Guide for Extending Students' Reading of Social Studies Material," *Social Studies*, v78 n2 p85-87 Mar-Apr 1987.

> Proposes that, in addition to demanding literal comprehension of reading materials, study guides should contain questions that require the type of critical reading that promotes interactive, constructive, and dynamic cognitive behaviors. Provides a sample of a general study guide that would promote these reading behaviors.

## Reading Strategies: General

Alvermann, Donna E.; and others. *Using Discussion to Promote Reading Comprehension*. International Reading Association, Newark, DE, 1987. 76 p. [ED 287 160]

> Drawing from observations of discussion in 24 different classrooms, this book will provide preservice and inservice teachers at the middle and high school levels with the motivation and knowledge to use discussion to foster student comprehension of content area text assignments.

Anthony, Helene M.; Raphael, Taffy E. *Using Questioning Strategies to Promote Students' Active Comprehension of Content Area Material*. Occasional Paper No. 109. Inst.

for Research on Teaching, Michigan State Univ., East Lansing, MI, 1987. 44 p. [ED 280 011]

> Examines prereading, during-reading, and postreading questioning activities to explore how instruction in questioning can enhance teachers' use of questions that promote comprehension and how teachers' instruction of students in such strategies can enhance their ability to comprehend content area texts independently.

Bean, Thomas W.; Ericson, Bonnie O. "Text Previews and Three Level Study Guides for Content Area Critical Reading," *Journal of Reading*, v32 n4 p337-41 Jan 1989.

> Describes the integration of text previews (teacher-developed synopses of the text) and three-level study guides (encouraging factual, inferential, and problem-solving responses). Claims a combination of these constitutes a powerful strategy for content area reading.

Brozo, William G. "Applying the Reader Response Heuristic to Expository Text," *Journal of Reading*, v32 n2 p140-45 Nov 1988.

> Describes a reader response heuristic which approaches expository texts on a feeling and experiential level. Focuses on the work of one student writer to show how the student's interpretations of a text on Arab-Israeli relations was mediated by the student's feelings and experiences.

Carnes, E. Jane. "Teaching Content Area Reading through Nonfiction Book Writing," *Journal of Reading*, v31 n4 p354-60 Jan 1988.

> Describes a teaching unit for junior high school content area classes that is intended to provide students with effective strategies for reading nonfiction. The unit involves independent reading, research, and writing activities which culminate in the publication of student-written nonfiction books on topics of the student's choice.

Dennis, Lynn; and others. "Project READ:S: Effective Design for Content Area Reading," *Journal of Reading*, v32 n6 p520-24 Mar 1989.

> Describes Project READ:S (Reading Education Accountability Design: Secondary) designed to encourage teachers to adopt more effective techniques for presenting printed materials. Uses authoring diskettes to enable teachers to produce textbook comprehension modules (reading guides) to accompany the student throughout the reading process and assist in postreading discussions.

Fuchs, Lucy. *Teaching Reading in the Secondary School. Fastback 251*. Phi Delta Kappa Educational Foundation, Bloomington, IN, 1987. 34 p. [ED 281 165]

> Provides practical information, classroom activities, and strategies for the instructor who wants to incorporate reading instruction into a particular content area. Chapters include: 1) reading in the content areas; 2) incorporating reading into lesson planning; 3) using questions to develop critical reading; and 4) reading and study skills, such as outlining, note-taking, and study methods.

Johnson, Linda Lee. "Learning across the Curriculum with Creative Graphing," *Journal of Reading*, v32 n6 p509-19 Mar 1989.

> Describes an instructional technique called "creative graphing" in which students learn to reorder information visually, to interpret the graphic aids of their textbooks more easily, to highlight relationships that are not immediately apparent in the text, and to illuminate ideas for further exploration using charts, trees, stars, chains, and sketches.

Konopak, Bonnie C.; and others. "Reading and Writing: Aids to Learning in the Content Areas," *Journal of Reading*, v31 n2 p109-15 Nov 1987.

> Suggests using writing to enhance students' learning of content material because a positive environment that encourages writing allows students to explore, analyze, and synthesize what they are learning in a content classroom. Enumerates principles for facilitating comprehension and recommends using a guided writing procedure.

Memory, David M.; Yoder, Carl Y. "Improving Concentration in Content Classrooms," *Journal of Reading*, v31 n5 p426-35 Feb 1988.

*Presents a concentration improvement guide for students. Offers a procedure for effective presentation of the guide — reading and discussing the guide in small groups, followed by whole class discussion of reactions.*

McClain-Ruelle, Leslie J. "Finessing Reading Strategies into the Secondary Content Classroom — An Inservice Delivery Model," *Reading Improvement*, v25 r ` p86-91 Sum 1988.

*Outlines a delivery system which improves teachers' classroom performance by introducing them to content-area reading strategies, and by drawing upon the research on effective inservice education, in an attempt to create a format which will allow and encourage participants to experience behavioral change.*

Muth, K. Denise. "Structure Strategies for Comprehending Expository Text," *Reading Research and Instruction*, v27 n1 p66-72 Fall 1987.

*Examines three strategies designed to help middle school students use text structures to comprehend expository text: 1) hierarchical summaries; 2) conceptual maps; and 3) thematic organizers. Summarizes advantages and disadvantages of each strategy and recommends that teachers consider the outcomes they want and select the most appropriate strategy for their particular purpose.*

Muth, K. Denise. "Teachers' Connection Questions: Prompting Students to Organize Text Ideas," *Journal of Reading*, v31 n3 p254-59 Dec 1987.

*Explains how to ask questions that will help students focus on structure and better understand expository text. Notes that because students must make both internal and external connections to text structure, teachers should ask questions which prompt students to identify the relationships among ideas in a text so that meaningful learning can occur.*

Schwartz, Robert M. "Learning to Learn Vocabulary in Content Area Textbooks," *Journal of Reading*, v32 n2 p108-18 Nov 1988.

*Shows how "concept of definition" (CD) instruction (instruction which organizes conceptual information into categories, properties, and illustrations) can be applied to content area reading. Presents several lessons and activities which develop strategies for combining new text information with prior knowledge, and for self-monitoring independent vocabulary learning.*

Simons, Sandra McCandless. "PSRT — A Reading Comprehension Strategy," *Journal of Reading*, v32 n5 p419-27 Feb 1989.

*Describes a reading comprehension strategy — Prepare, Structure, Read, and Think (PSRT) — designed for subject area lessons that use expository textbooks. Presents a generic guide for planning and conducting a lesson based on PSRT.*

Smith, Patricia L.; Tompkins, Gail E. "Structured Notetaking: A New Strategy for Content Area Readers," *Journal of Reading*, v32 n1 p46-53 Oct 1988.

*Describes a technique using expository text structures and graphic organizers as the basis for taking notes from content area texts. Asserts that the same technique can be transferred to notetaking during lectures.*