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)
Content Area Reading in Secondary Education

by Mary Morgan

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 Torsheet Service (OATS) of the Institute for Scientific Information.

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Overview


Focusing on how secondary school reading programs can be organized and on how their effectiveness can be measured, this book synthesizes research in several major areas and makes concrete suggestions for using this research to improve reading instruction in content areas.


Discusses possible causes of the lack of good reading and study skills among U.S. secondary school students. Describes seven techniques for improving these skills.


Discusses content area concerns for secondary teachers. Presents two ideas to help teachers build the bridge from research findings to content classrooms: 1) an in-service 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


Describes the use of microcomputers to enhance vocabulary instruction in content teaching. Reviews the types of software available.


Four field tests of Canadian software show that computerized interactive fiction teaches both history and independent reading skills.

Reading Strategies: Math and Science


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.


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.

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


Reviews a Document Reading Activity Packet (DRAP) concerning the Fort Washington Incident 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.


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, recent events, and differing accounts of history.


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.


Examines prereading, during-reading, and postrading question- ing 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.


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.


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.


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.


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.


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.


Describes an instructional technique called “creative graphing” in which students learn to render 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.


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.

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.


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.


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.


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.


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.


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.


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.