

technique known as clustering. Clustering as an invention exercise in writing transforms easily to science. Students brainstorm or free associate a scientific term or concept such as “cell,” “heredity” or “genetics.” Then they write a paragraph based on the connections made during clustering. The objective is for students to gain access to their intuitive thinking through clustering and then through writing sequentially to allow the discursive mind to order concepts logically.

Reading strategies for mathematics vary. One strategy uses discussion questions on geometry. It employs Benjamin Bloom’s taxonomy for higher order thinking skills. Bloom’s questioning ranges from the literal level of recall to the levels of analysis, synthesis and evaluation. Once familiar with these questioning skills, students attempt to write their own geometric proofs. Another strategy for both math and science is the SQ3R (survey, question, read, recite, review) method. Another is the use of reasoning by analogy which can be used as a prereading, or a during, or after reading device. Successful implementation of this strategy enables students to devise similar study guides on their own, consequently, taking students one more step toward becoming active learners and independent thinkers.

The lessons in “Wording Science” come from one source which stresses the teaching of vocabulary to improve science learning. Techniques tried are graphic organizers, concept maps for contextual analysis, and list-group-label as a post-reading exercise. The “possible sentence” concept uses a scientific methodology procedure. It has the students make predictions about relationships of unfamiliar words. Then they read the text to determine the accuracy and refine their initial predictions. The process is similar to a detective search for clues.

The rest of the sections deal with various writing exercises that pertain to scientific subjects. The shorter writing section and imaginative section employ process writing strategies such as journals, letters, newspapers, personal narratives, and creative writing. All considered writing for an audience. Fiction writing centers around chemical, physical, or biological reactions. In general, imaginative writing focuses on challenging students to think inventively, not just to recall material.

Essentially Reading and Writing fulfills its function as a practical guide for the science and math teacher to add communication skills to the curriculum.

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Johns, J., et. al. (1992). **CELEBRATE LITERACY! THE JOY OF READING AND WRITING.** Bloomington, ID: EDINFO Press

Celebrate Literacy! is a guide book which contains lesson plans and resource information for an elementary school reading program. Each section redesigns, for practical use in the classroom, a source entry in the ERIC database, an educational information retrieval system. Consequently, the format is structured parallel to the Sensenbaugh book: user’s guide, activities chart, source cited, lessons structured by description, objective, and procedure with a boxed off space for comments and notes. In addition some lessons sport shaded boxes of information entitled “Observation.”

The book suggests practical and creative teaching ideas for implementing reading skills in the elementary curriculum. Though no theory is specifically stated, a whole language approach is evident in the lessons. Basically *Celebrate Literacy!* emphasizes the philosophy of the pleasure principle toward teaching reading. The authors espouse to communicate the joy of reading and writing based on the belief that “we do best what we most enjoy” (vii).

The lessons draw from thirty-nine sources, twenty-one of them under separate title. With the exception of 1987, the sources include the years 1982-1989. The year 1989 claims the most from separate sources, seven. Ten lessons, however, use the same 1989 source: "Celebrating the National Reading Initiative," Sacramento: California Department of Education. The second highest year, 1984, is cited five times, yet all from the same source: "Towards More Nutritious Reading Programs," *Primary Education Notes* 43 Rozell, Australia. From these two sources, then, fifteen lessons out of thirty-nine derive.

The volume is divided into five major sections and then subdivided within each section. The sections are "Classroom Reading Strategies and Skills," "Reading Is About Literature," "Reading and Other Media," "Reading Fun and Games," and "Reading Parties." Again a helpful feature of the guide is the activities chart which prefaces the book. It points out which specific lessons promote reading skills, oral language skills, silent reading, writing skills, parent involvement, probe questions, drama, newspapers, games, cloze procedures, spelling, grammar, and poetry.

In order to foster independent readers, some of the reading strategies involve: (1) encouraging students to read materials outside of the typical school curriculum; (2) implementing oral reading for both teachers and students; (3) making time for silent reading; (4) designating areas for shared reading activities such as storytelling, readers' theatre, and publishing; (5) including parents and adult readers as role models; and (6) employing flexible groupings by subject interest rather than by reading ability.

Even though these lesson plans have been tried and tested in the classroom, I found some lessons brief in specific details. Further, few direct reading methods are given (except for cloze techniques and the "ready, set, read, and reflect" format). Perhaps more in depth projects could have been proposed, especially for the upper grades, 5-6. Except for the computer pen pal concept, the majority of the lessons seem to be programmed for K-4. I use the term "seem" because no specific grades are indicated.

Despite these reservations, *Celebrate Literacy!* offers creative approaches for an elementary reading program.

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