NASA's Deep Impact Mission: Decision Making

Rule-Based Strategy

APPENDIX G

PROCEDURE

- Present students with a "rule-based" strategy.
 One summarizing strategy developed by Brown, Campione, and Day (1981) is referred to as a rule-based summary strategy. It has been tested with students of various ages. The rules in the strategy are as follows:
 - Delete trivial material that is unnecessary to understanding;
 - Delete redundant material;
 - Substitute superordinate terms for lists (e.g., "flowers" for "daisies, tulips, and roses"); and
 - Select a topic sentence, or invent one if it is missing.

To make these rules "come alive" for students, a teacher might initially demonstrate them in some detail. For example, the teacher might present students with a passage such as the one in **Exhibit 3.2.**

Exhibit 3.2 Sample Passage for Rule-Based Summary Strategy

Why Does Studying Solar Wind Help Us Learn About the Origin of Our Solar System? Most scientists believe our solar system was formed 4.6 billion years ago, with the gravitational collapse of the solar nebula, a cloud of interstellar gas, dust, and ice created from previous generations of stars. As time went on, the grains of ice and dust bumped into and stuck to one another, eventually forming the planets, moons, comets, and asteroids as we know them today.

How this transition form the solar nebula to planets took place has both fascinated and mystified scientists. Why did some planets, such as Venus, develop thick, poisonous atmospheres, while others, such as Earth, become hospitable to life? Partial answers are available from the study of the chemical composition of the solar system bodies, which scientists find are significantly different from one another. Although this information helps scientists model various processes form planet formation, they are still hampered by one major question: What was the original solar nebula made of?

Our Sun may contain the answer. It contains over 99 percent of all the material in the solar system, and, although its interior has been modified by nuclear reactions, its outer layers are believed to be composed of the same material as the original solar nebula. By collecting and studying solar wind the material flung from the Sun - scientists may find more answers to this mysterious puzzle.

Excerpted form "What's Genesis All about?" on the <u>Genesis</u>, <u>Search for Origins</u> Web site (www.genesismission.org/mission/index.html).

EXAMPLE

The teacher asks the students to read the passage silently. Then she explains that she is going to demonstrate the "rule-based strategy" for summarizing information that she had introduced the previous day. She talks them through the process as follows:

"I'm going to think aloud as I apply the rules of this strategy. See if my thinking makes sense to you. "The rules say to 'delete trivial material, to delete redundant material, and to substitute superordinate terms for lists.' The first paragraph is almost all background, but it doesn't seem trivial. There are,

however, a couple of lists. Let's see. For 'interstellar gas, dust, and ice,' I'll substitute 'interstellar material'. for 'planets, moons, comets, and asteroids,' I'll substitute 'heavenly bodies.' Also, I see something redundant: The 'solar nebula' and the 'cloud of interstellar material created from previous generations of stars' are the same thing, so I'll delete one of them. And come to think of it, the expression 'bumped into' seems somewhat trivial. I think I'll take it out, too!"

REFERENCES

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- Marzano, Pickering, & Pollock (2001) Classroom Instruction that Works Association for Supervision and Curriculum Development (ASCD) Alexandria, VA.
- Swanson & De La Paz (1998) Teaching Effective Comprehension Strategies to Students with Learning and Reading Disabilities.