CALIBRATING COGNITIVE DEMAND WITH LANGUAGE USE IN CONTENT

This Bulletin discusses the cognitive expectations in the content areas for learners who are at varying levels of English language proficiency (see previous Bulletin Vol. 8, No. 2 for a description of language feature characteristics for different proficiency levels). English Language Learners (ELLs) can understand content more easily when the academic language functions, i.e., cognitive demands, are in line with language proficiency demands.

DEFINING THE ACADEMIC LANGUAGE FUNCTIONS FOR ELLS AT DIFFERENT LEVELS OF PROFICIENCY

ELLs with entering-beginning English proficiency (nonverbal/word/phrase/sentence level usage): cognitive/linguistic demands of learners at this level include seeking information, identifying, describing, comparing, and sequencing.

ELLs with developing level English proficiency (continuous text level use of language): classifying, analyzing, inferring, justifying, and persuading.

ELLs with expanding English language proficiency use bridging to the mainstream (increasingly sophisticated continuous text use of language): problem solving, synthesizing, and evaluating.

CALIBRATING COGNITIVE DEMAND WITH LANGUAGE USE IN A SCIENCE LESSON

Content standard: Describe how the motion of particles of matter determines the state of that matter.

Entering-beginning level proficiency: Using pictures, students will label and orally describe, in single words, pictures of an ice cube changing from a solid to a liquid, then to gas.

Developing level proficiency: Using a thermometer, students will analyze orally and in writing the temperature at which water begins steaming.

Expanding level proficiency: Using data, students will problem solve a formula to explain the effect of different altitudes
on differences in temperatures.

CALIBRATING COGNITIVE DEMAND WITH LANGUAGE USE IN A MATH LESSON

Content standard: Demonstrate an understanding of the relationships among the basic arithmetic operations on numbers.

Entering-beginning level proficiency: Students will describe a picture with six soft drink cans costing $3.60 and identify the math operation involved in determining the unit price per can.

Developing level proficiency: Students will orally justify how they find the unit price per can for a six-pack costing $3.60.

Expanding-bridging level proficiency: Students will compare the unit price of a six pack at $3.60 versus a twelve-pack at $6.00 and evaluate which price is the most economical and why.

CALIBRATING COGNITIVE DEMAND WITH LANGUAGE USE IN A SOCIAL STUDIES LESSON

Content standard: Demonstrate an understanding of the causes and effects of the Vietnam War.

Entering-beginning level proficiency: Students will make a visual timeline and sequence the major events occurring during the Vietnam War.

Developing level proficiency: Students will classify the pros and cons of U.S. involvement in the Vietnamese War and write a paragraph justifying their preference for or against U.S. involvement.

Expanding-bridging level proficiency: Students will write an essay evaluating the importance of the conditions influencing the Vietnam War.

CONCLUSION

Limited language proficiency should not prohibit ELLs from accessing grade-appropriate concept learning. It is important to "unwrap" the language used to understand concepts and to be sensitive to the cognitively appropriate demands for the proficiency levels as described above.

Teachers must scaffold repeatedly through modeling (I do, you watch; I do, you help; you do, I help; you do, I watch) and have ELLs practice listening, speaking, reading and writing in English to independently demonstrate their content learning.

SOURCES: