THE 12 Cs FOR SCHOOL SUCCESS:
Developing Language Through Content

All content teachers are language teachers. Almost everything that is learned in school, especially through print, requires the medium of language. Any subject matter is delivered and learned through language in ways that enable learners to think about and describe ideas with language that is unique to that content. Science, math, literature, social studies/history each use language a bit differently, and each fosters language growth in unique ways.

This Bulletin discusses those aspects of language development through content for English language learners (ELLs). Language features which are important for ELLs to master in science, math, social studies/history, and literature are also described, with suggestions on how to implement them.

THREE BENEFITS OF DEVELOPING LANGUAGE THROUGH CONTENT

Linguistic aspects of language are developed through content. In an academic setting, content and language are integrally related. Thus, learners practice a wide range of vocabulary and grammar through writing essays and short stories, describing the results of science experiments, solving math problems, or describing historical events.

Cognitive aspects of language are developed through content: content provides the structure through which learners understand the world and describe it. Acquiring content knowledge means learning what the subject is about, how the subject is understood, and how to articulate the subject orally and in writing. As learners learn to use the language of a specific content area, they become better able to comprehend the subject matter.

Finally, there are pedagogical aspects: using language through content provides a practical way to expand language knowledge. Practicing content is accomplished through small group collaborative activities which promote clarification of learners thinking. These activities enable all learners to actively participate in the learning process. For example, peer interaction in an applied problem-solving task may help a learner struggling with quadratic equations. This, in turn, helps to expand language knowledge in the content of math.

Language delivered through the content areas is purposeful, promotes thinking in unique ways, and expands language use. It broadens the breadth and depth of vocabulary and grammar. Now we examine specific features of content.

LANGUAGE FEATURES OF CONTENT
AND HOW TO TEACH THEM

Science.
1) An inquiry-based, problem solving
approach provides a rich source of social interactions which help to clarify concepts and develop language. Demonstrations and hands-on experimentation are an excellent foundation for print-related explanations and applications found in texts. They serve to develop cognitive and language skills concurrently by converting experiences to language.

2) Logical connectors (e.g., therefore, as a result, consequently, etc.) pose particular challenges to the development of logical reasoning. Knowledge of these words is critical in order for learners to make the necessary associations that are a normal part of science.

3) Frequent oral activities which provide opportunities for asking questions, generating tentative conclusions, making predictions, and evaluating evidence, help learners to internalize their reasoning to successfully engage in science.

4) Knowledge of content-specific vocabulary is the most important aspect of success in science and should be stressed during instruction. English language learners should be given every opportunity to master these words through personal journals, semantic webs, and categorized word lists.

5) Perspectives on science are culture-specific as well as age-related; therefore, a learner's ability to comprehend scientific concepts may not be language-related but may reflect a worldview that is closely tied to personal beliefs based on culture/religion. Teachers should be aware of conflicting values of scientific perspectives among learners.

Mathematics. 1) Math language has several synonyms to explain basic operations (e.g., +, add, plus, combine, and, sum, increase, etc.); therefore, every attempt should be made to make learners aware of these synonyms.

2) Similarly, the "grammar" of math contains word relationships (greater/less than, as...as, etc.), extensive prepositional use (divided by, equal to, etc.), and passive voice expressions (e.g., 20 is 5 times a certain number), and connectors (e.g., then, such that, if, etc.) which can pose particular difficulties in comprehension.

3) Math is not simply a passive paper-and-pencil activity; it can become quite active when learners are allowed to explain orally the sequence of operations and the rationale for arriving at answers. Providing the opportunity to work with numbers helps to facilitate greater fluency with English.

Social Studies/History. 1) The language of social studies/history contains context-reduced use of language with a great deal of complex language. Teachers need, therefore, to be particularly aware of anticipating the structure of sentences, as well as the use of particular connectors, which may signal the text author's emphasis or intent. These specific grammatical features must be highlighted for learners if they encounter confusion or misinterpretation with what they read.

2) Sensitivity to or lack of difference in background knowledge is also particularly important to consider. The degree to which readers will comprehend may depend, in large part, on exposure to U.S. culture and length of time in U.S. schools. In addition, background knowledge may provide different perspectives. For example, a learner might provide a different interpretation of the reasons for the American revolution based on perspectives learned in the country of origin. This should be brought into discussion.

Literature. The richness of vocabulary in literature is the source of both great potential for learning, as well as frustration and confusion in comprehending text. In particular, teachers need to be aware of the tendency for English language learners to overuse the dictionary to seek the exact meaning of every word. Teachers need to anticipate difficult vocabulary and to encourage the development of individual vocabulary journals. They should clarify the meaning of the context of what learners read to ensure maximum comprehension. Important, too, is to note the author's use of grammar.

SOURCES: