THE 12Cs OF SCHOOL SUCCESS:
CONSTRUCTING KNOWLEDGE

A principal feature of public education is to maximize the learning potential of future citizens. The way this is accomplished has undergone a revolution in education. Firmly established in our understanding is that knowledge is constructed, or made meaningful through personal interaction, by integrating learner backgrounds and experiences with what is being learned.

Knowledge becomes comprehensible only insofar as it is relevant in some way: it requires context through which it can be applied to a given situation. Learners access knowledge by constructing personal meaning from what they know.

It is crucial for English Language Learners (ELLs) to be allowed to construct knowledge through their personal lives; however, they must overcome language and culture barriers in order to personally construct knowledge in the English language. This Bulletin examines the guiding principles of a constructivist approach to learning (Brooks & Brooks, 1999) and offers some suggestions on how to apply these principles for ELLs.

GUIDING PRINCIPLES IN A CONSTRUCTIVIST CLASSROOM

1. Making a new concept relevant. If new knowledge is being introduced, it must be put in context and made relevant. Relevance can be created by the teacher structuring lessons around the posing of questions that challenge learners to think in new ways and generate new and greater interests. For example, a unit on geometry can be initiated by having learners consider the figures implicit in a variety of objects in a room; a unit on solids, liquids, and gases can emerge from considering the contexts and conditions under which water is transformed into steam and ice; a focus on the American Civil War can emerge from examining how family disputes are settled; or a unit on the poetry of William Wordsworth’s "Tintern Abbey" can be introduced through a discussion of the beauty of nature.

2. Structuring learning around primary concepts: the quest for essence. Delivery of content needs to be organized initially from a holistic perspective before examining its individual components. For learners to have a clearer understanding of concepts, these components need to be contextualized within a larger framework of associated concepts. Consider this: putting together a children’s swing set with its multiple metallic pieces and nuts and bolts is a far less challenging project when a picture of the completed set is consistently in view during the assembly process. Similarly, ideas and associated factual information are more clearly comprehended when understood from a larger context.

3. Seeking and valuing learners’ points of view. Creating an environment of understanding and addressing learners’ perspectives enables them to
negotiate the meaning of the content being delivered. Content knowledge is acquired through the process of learning, rather than simply the goal of learning. Learning occurs when individuals think critically through the application of content knowledge in a variety of contexts. It is not learning the information for its own sake that is important; rather, it is equally, if not more important, to be able to use the information in a variety of ways.

4. Adapting curriculum to address learners' suppositions. Curriculum must be adapted to learners' abilities to use the content cognitively, socially, and emotionally; otherwise, the content will be devoid of deeper meaning. It is critically important for English Language Learners that delivery of any content be mediated through specific language and cultural considerations in order for comprehension to occur. Teachers must provide the appropriate contexts for learners to construct the content in order to derive personal meaning.

5. Assessing student learning in the context of teaching. Learners can be observed while performing tasks and activities to determine how much and what kind of help they need in order to do them successfully. By simultaneously monitoring the cognitive, social, and emotional status of learners in their learning, teachers can modify the quality and quantity of content delivery to meet their needs. In this manner, teaching and assessment are integrally related to each other.

CLASSROOM APPLICATIONS
1. In delivering content, maximize learning by offering different opportunities for social response and interaction.
2. When assigning tasks and activities, use cognitive terminology such as classify, analyze, predict, create, etc. This involves higher order thinking and enables learners to apply the content to the tasks.
3. Allow learner thinking to drive lessons. Shift instructional strategies or alter content based on student responses. This requires flexibility, as lessons must be modified continuously on the basis of learner reaction and feedback.
4. Inquire about learners' understanding of concepts before sharing your own understanding of those concepts. This allows learners the freedom to consider alternative solutions and to predict outcomes on the basis of their prior knowledge.
5. Ask open-ended questions of learners and encourage them to ask questions of others. This helps to expand learner thinking and to practice language use in the content area.
6. Seek elaboration of learners' initial experiences. Often learners are not given enough opportunity to think through what they know and how they know it. Elaboration can often lead to modification of responses as well.
7. Engage learners in experiences that might engender contradictions to learners' initial hypotheses; afterwards, encourage a discussion. This will lead to a deeper understanding of the content.
8. Provide time for learners to build relationships with other learners. Construction of knowledge is greatly enhanced through collaboration with others in the learning process. Collaboration enables learners to share ideas in nonjudgmental ways.
9. Provide time for learners to create metaphors for what they are learning. The ability to abstract one's understanding through the use of metaphor (e.g., "structuring learning around basic ideas or larger issues/questions is like assembling a bicycle by continually keeping a picture of its final assembly in view") provides an additional way to develop a deeper understanding of content.

SOURCES: