Figure E.2

Distinguishing Understandings from Factual Knowledge

Understandings	Factual Knowledge
• Reflect "big ideas" in the form of powerful generalizations. • Are transferrable across situations, places, and times. • Must be "earned" (i.e., constructed in the mind of the learner) through processes of inquiry, inferencing, and rethinking. • Are most appropriately assessed through performance tasks requiring one or more *facets of understanding* (e.g., application and explanation).	• Consists of *facts* (e.g., 4 x 4 = 16) and basic *concepts* (e.g., sky). • Facts do not transfer. Basic concepts have limited transfer capacity (e.g., the concept of *dog* applies to different breeds). • Can be learned in a rote fashion (i.e., without understanding). • Can be assessed using objective test/quiz items having a "right" or "wrong" answer.

Other Points to Remember

• An understanding is an inference, not a fact. It is a helpful insight derived from inquiry. Key understandings in intellectual fields (e.g., in physics: *Objects remain in motion at a constant velocity if no force acts on them*) often violate common sense and conventional wisdom. They are thus often prone to misunderstanding by students. Therefore, they cannot simply be "covered"; they must be "uncovered" (e.g., by exploring essential questions, wrestling with challenging problems, debating a complex issue).

• Such understandings endure in that they enable us to make vital and informative connections in our learning—as students and as adults. For example, the idea that "might does not make right" applies to both playground disputes and international diplomacy.

• Although facts and basic concepts can be learned in rote fashion, research shows that an understanding-based approach can yield more substantive, long-term, and flexible learning of the basics. Understandings function by helping to link and connect otherwise discrete facts and skills.