Understanding Understanding

What do we mean when we say a student knows or understands a concept? The following models represent schema presenting different views of knowing and understanding ideas.

Please review the following models of learning:

• Stages of Learning- Rivera & Smith
• Facets of Understanding- Wiggins & McTighe
• Bloom’s Taxonomy- B. Bloom

As you look at these schema consider methods of assessing student understanding for each.
Stages of Learning

**Application** - target behavior is extended.

**Generalization** - rate and accuracy of target behavior is generalized to other settings, persons, or materials.

**Proficiency** - target behavior is performed with high accuracy and fluency.

**Acquisition** - through instruction target behavior is performed with high accuracy (about 80%-90%).

**Entry** - target behavior is performed at a slow rate or not at all.

The Six Facets of Understanding
From Wiggins & McTighe, Understanding by Design

Performance

Facet #1- EXPLANATION: sophisticated and apt explanations and theories, which provide knowledge and justified accounts of events, actions, and ideas: Why is that so? What explains such events? What accounts for such action? How can we prove it? To what is this connected? How does this work? What is implied?

Facet #2- INTERPRETATIONS: narratives, translations, metaphors, images, and artistry that provide meaning. What does it mean? Why does it matter? What of it? What does it illustrate or illuminate in human experience? How does it relate to me? What makes sense?

Facet #3- APPLICATION: ability to use knowledge effectively in new situations and diverse contexts. How and where can we use this knowledge, skill, process? How should my thinking and action be modified to meet the demands of this particular situation?

Insight

Facet #4- PERSPECTIVE: critical and insightful points of view. From whose point of view? From which vantage point? What is assumed or tacit that needs to be made explicit and considered? What is justified or warranted? Is there adequate evidence? Is it
reasonable? What are the strengths and weaknesses of the idea? Is it plausible? What are its limits? So what?

Facet #5- EMPATHY: the ability to get “inside” another person’s feelings and world view. How does it seem to you? What do they see that I don’t? What do I need to experience if I am to understand? What was the author, artist, or performer feeling, seeing and trying to make me feel and see?

Facet #6- SELF-KNOWLEDGE: the wisdom to know one’s own ignorance and how one’s patterns of thought and action inform as well as prejudice understanding. How does who I am shape my views? What are the limits of my understanding? What are my blind spots? What am I prone to misunderstand due to prejudice, habit style?

BLOOM’S TAXONOMY

Benjamin Bloom created this taxonomy for categorizing level of abstraction of questions that commonly occur in educational settings.

Knowledge
* observation and recall of information
* knowledge of dates, events, places
* knowledge of major ideas
mastery of subject matter

* Question Cues:
  list, define, tell, describe, identify, show, label, collect, examine, tabulate, quote, name, who, when, where, etc.

Comprehension

* understanding information
* grasp meaning
* translate knowledge into new context
* interpret facts, compare, contrast
* order, group, infer causes
* predict consequences
* Question Cues:
  summarize, describe, interpret, contrast, predict, associate, distinguish, estimate, differentiate, discuss, extend

Application

* use information
* use methods, concepts, theories in new situations
* solve problems using required skills or knowledge
* Questions Cues:
  apply, demonstrate, calculate, complete, illustrate, show, solve, examine, modify, relate, change, classify, experiment, discover

Analysis

* seeing patterns
* organization of parts
* recognition of hidden meanings
* identification of components
* Question Cues:
  analyze, separate, order, explain, connect, classify, arrange, divide, compare, select, explain, infer
Synthesis

* use old ideas to create new ones
* generalize from given facts
* relate knowledge from several areas
* predict, draw conclusions
* Question Cues:
  combine, integrate, modify, rearrange, substitute, plan,
  create, design, invent, what if?, compose, formulate,
  prepare, generalize, rewrite

Evaluation

* compare and discriminate between ideas
* assess value of theories, presentations
* make choices based on reasoned argument
* verify value of evidence
* recognize subjectivity
* Question Cues
  assess, decide, rank, grade, test, measure,
  recommend, convince, select, judge, explain,
  discriminate, support, conclude, compare, summarize