Student Skills Inventories

Critical Thinking Measures

California Test of Critical Thinking Skills (CCTST)
This assesses critical thinking skills and is available on a variety of different scales: Analysis, Evaluation, Inference, Deduction, Induction, Interpretation, Explanation, Quantitative Reasoning, and Overall Reasoning Skills. This is a multiple-choice instrument which is available on paper or on-line. There is a charge for using it.

http://www.insightassessment.com/Products/Products-Summary/Critical-Thinking-Skills-Tests/California-Critical-Thinking-Skills-Test-CCTST

Critical Thinking Assessment Test (CAT)
This assesses a broad range of critical thinking skills. The test questions are derived from real world situations and most require short essay answers. There is a charge for using it.

https://www.tntech.edu/cat/

Additional Critical Thinking Instruments:
This is a website on the development of critical thinking skills in students. The main webpage is http://www.criticalthinking.net/index.html. The page specific to a large variety of critical thinking skills instruments is http://www.criticalthinking.net/testing.html.

Scientific Reasoning

Lawson Classroom Test of Scientific Reasoning (LCTSR)
Assesses reasoning patterns associated with hypothesis testing such as control of variables, correlational, probabilistic, proportional, and combinatorial reasoning. The second article presents a modified version of the original test.


Assessment of Scientific Argumentation in the Classroom (ASAC)
This is a classroom observation protocol for determining student conceptual or cognitive, epistemological, and social aspects of scientific argumentation. The book chapter for this instrument is available for purchase at [http://link.springer.com/chapter/10.1007/978-94-007-2470-9_12](http://link.springer.com/chapter/10.1007/978-94-007-2470-9_12).

Discourse in Inquiry Science Classrooms (DiISC)
This is a classroom observation protocol for scientific argumentation.


Science Literacy

Test of Scientific Literacy Skills (TOSLS)
The test measures skills related to major aspects of scientific literacy: recognizing and analyzing the use of methods of inquiry that lead to scientific knowledge and the ability to organize, analyze, and interpret quantitative data and scientific information.


Cognitive Skills

Cognitive Reflection Test (CRT)
The CRT was designed to assess a specific cognitive ability. It assesses individuals' ability to suppress an intuitive and spontaneous ("system 1") wrong answer in favor of a reflective and
deliberative ("system 2") right answer.
http://www.sjdm.org/dmidi/Cognitive_reflection_Test.html


Student Approaches to Learning

Course Perceptions Questionnaire (CPQ)
This instrument measures the student perceptions of surface approach and deep approach of learning.


Study Process Questionnaire (SPQ)
Instrument with 42 self-report items and 6 sub-scales. The three important approaches to learning are categorized as: (1) surface--meeting the minimum requirements; (2) deep--an intrinsic interest in what is learned; and (3) achieving--enhancing ego and self-esteem through the competition for grades. http://files.eric.ed.gov/fulltext/ED308200.pdf


Revised Study Process Questionnaire (R-SPQ)

The Biggs' Study Process Questionnaire (SPQ), an instrument for the evaluation of student learning in higher education, was revised over a three-year period with over 2500 higher education students. The original instrument structure of 42 items in 6 sub-scales was maintained with each item being subject to revision and assessed for internal consistency and appropriateness through a sequence of trial and retrial. The final version consists of 8 original items and 34 revised items.


Approaches to Learning Inventory (ASI)

This instrument has 52 questions and measures dimensions of deep, strategic, and surface learning.


Approaches and Study Skills Inventories for Students (ASSIST)

This 52 item instrument measures four subscales: deep approach, surface approach, surface apathetic approach, preferences for different types of course and teaching. There are also related subscales of fear of failure, lack of purpose, syllabus boundness, and unrelated memorizing.


**Student Perceptions of Learning (SPL)**
This instrument measures quantitative increase in knowledge, memorization, abstraction of meaning, understanding of reality.

