Student Views/Attitudes/Affective Instruments

**Views about science**

**Views about Science Survey (VASS)**
Measures student beliefs about the nature of science and learning science.


**Views on Science and Education (VOSE)**
Assesses attitudes towards, knowledge of, and teaching practices related to the nature of science.


**Views on Science, Technology, and Society (VOSTS)**
Measures student views on the social nature of science and how science is constructed.


**Views about learning science**

**Transformative Experiences**
This instrument is designed to measure a transformative experience which is defined as a learning episode in which a student acts on the subject matter by using it in everyday experience to more fully perceive some aspect of the world and find meaning in doing so.


**Student Course Engagement Questionnaire**
Measures perceived student skills of engagement, participation/interaction engagement, emotional engagement, and performance engagement in a course.

**Undergraduate Research Student Self-Assessment (URSSA)**
Measures perceived research skills gained during a research experience. The website is [http://www.colorado.edu/eer/research/undergradtools.html](http://www.colorado.edu/eer/research/undergradtools.html).


**Summer Undergraduate Research Experience (SURE) and Classroom Undergraduate Research Experience (CURE) surveys.**

The SURE and CURE Surveys measure student perceptions of how participating in an undergraduate research experience or CURE has influenced them. The surveys are available at [http://www.grinnell.edu/academics/areas/psychology/assessments/cure-survey](http://www.grinnell.edu/academics/areas/psychology/assessments/cure-survey) and [http://www.grinnell.edu/academics/areas/psychology/assessnebts/sure-iii-survey](http://www.grinnell.edu/academics/areas/psychology/assessnebts/sure-iii-survey).


**Views about specific disciplines**

**Colorado Learning Attitudes about Science Survey (CLASS-BIO, CHEM, or PHYSICS)**
CLASS-Bio, chem, or physics examines how students perceive the fields of biology (or chemistry or physics) and compares them with experts’ perceptions. Depending on the subject (bio, chem, or physics) it measures aspects of the following: Real World Connections, Personal Interest, Sense Making/Effort, Conceptual Connections, Conceptual Understanding, Problem Solving. Website: [http://www.colorado.edu/sei/class/](http://www.colorado.edu/sei/class/)


**Epistomological Beliefs Assessment in Physical Sciences (EBAPS)**
Probes students’ epistemologies, their views about the nature of knowledge and learning in the physical sciences.


**Maryland Physics Expectations Survey (MPEX)**
Probes student attitudes, beliefs, and assumptions about physics on a 34-item Likert-scale (agree-disagree) survey.


**Biology Attitude Scale**
This is a 22-item instrument that is designed to measure students’ feelings of like or dislike about biology. Fourteen of the items use a Likert-type scale and 8 items use a semantic differential scale.
Motivation

Achievement Goal Questionnaire
This measures sub-components of achievement: mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance goals.


Science Motivation Questionnaire (SMQ)
This measures five motivational constructs in college science students: intrinsic motivation, self-determination, self-efficacy, career motivation, and grade motivation.


Science Motivation Questionnaire II (SMQ-II)

The SMQ-II assesses components of students’ motivation to learn science in college and high school courses. Science educators who wish to use the Science Motivation Questionnaire II © 2011 Shawn M. Glynn for research and teaching have permission to do so if they cite Glynn et al. (2011) and comply with the fair use of this copyrighted and registered questionnaire.
http://www.coe.uga.edu/outreach/programs/science-motivation

Motivated Strategies for Learning Questionnaire (MSLQ)
A Likert-scaled instrument to assess motivation and use of learning strategies by college students. Motivation scales are in three broad areas: value, expectancy, and affect. Cognitive strategies scales are in cognitive, metacognitive, and resource management strategies.


Ownership

Project Ownership Survey (POS)
The Project Ownership Survey (POS) instrument of 18 scaled items was generated based on prior research and theory related to project ownership and combined with 30 items shown to measure respondents' emotions about an experience.


Sense of Belonging

Sense of Belonging Instrument (SOBI)
The SOBI is a 27 item self-reporting instrument of a scored subscale that assesses the dimensions of fit and valued involvement.


**Beliefs about Intelligence**

**Beliefs about intelligence instrument**
The beliefs about intelligence instrument is a 6-point Likert-type scale that measures motivational variables including implicit theories of intelligence, goal orientation, beliefs about effort, and attributions and strategies in response to failure.


**Self-Efficacy**

**Patterns of Adaptive Learning Scales (PALS)**
Designed for younger students, but also published with college students, this instrument measures achievement goal orientation. [http://www.umich.edu/~pals/pals/index.html](http://www.umich.edu/~pals/pals/index.html)


**Self-Efficacy for Learning Form (SELF)**
The SELF is a 57-item instrument to measure self-efficacy across five dimensions including reading, studying, test preparation, note-taking, and writing. [http://www.uky.edu/~eushe2/Pajares/SelfEfficacyForLearningZimmerman.pdf](http://www.uky.edu/~eushe2/Pajares/SelfEfficacyForLearningZimmerman.pdf)


**Biology Student’s (College Biology Self-Efficacy)**
This 23 item instrument measures students’ self-reported confidence in understanding and using biology in their lives.

**Self-Efficacy to Learn Statistics (SELS)**
This instruments measures whether statistics self-efficacy is related to statistics performance, and whether self-efficacy for statistics increases during an introductory statistics course.


**Student Evaluation of Instructional Practices**

**Student Evaluation of Educational Quality (SEEQ) questionnaire**
This 24-item instrument assesses the six scales of learning, enthusiasm, organization, group, rapport, and breadth.


**General Science Education Research Instrument Site**

**Field-Tested Learning Assessment Guide (FLAG) website**
The FLAG website offers broadly applicable, self-contained modular classroom assessment techniques (CATs) and discipline-specific tools for STEM instructors interested in new approaches to evaluating student learning, attitudes and performance. Each has been developed, tested and refined in real colleges and universities classrooms.

The FLAG also contains an assessment primer, a section to help you select the most appropriate assessment technique(s) for your course goals, and other resources. http://www.flaguide.org/index.php

**Informal Science Education Site**
Informal science education is the study of science learning outside of the formal classroom environment (e.g., science centers, science clubs, science TV shows). The Center for Advances of Informal Science Education (CAISE) site offers broadly applicable instruments and projects for informal science education assessment. http://informalscience.org/