

Student Understanding of Scientific Inquiry (SUSI): Development and Validation of an Assessment Instrument

ABSTRACT: This paper presents the development and validation of the *Student Understanding of Scientific Inquiry* (SUSI) instrument based on the data collected from undergraduate students in the USA, China, and Turkey. Built on the existing questionnaires published in the science education literature, including the *Views on Science-Technology-Society* (VOSTS) and the *Views of Nature of Science* (VNOS), SUSI blends Likert-type multiple-choice items and related open-ended questions to assess students' understanding about how scientific knowledge develops. It is suggested that SUSI can be used as either a summative or a formative assessment tool in small or large scale studies. SUSI will also be most suitable for conducting cross-cultural comparison research because cultural influences may be revealed in the participants' responses to open-ended questions.