

**CLASSROOM INSTRUCTION WITH
TECHNOLOGY FOR INCLUSION:
THE SCIENCE INSTRUCTIONAL PRACTICES
INVENTORY (CITI:SIPI)**

<http://www.lehigh.edu/~amb4/citi/citisipi.pdf>

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Introduction

Recent data from the National Center for Education Statistics (2002) noted that students with disabilities make up 13.2% of the student population in public schools. Due to recent federal government legislation that includes the *Individuals with Disabilities Education Act* (1990) and *No Child Left Behind Act* (2001) more and more school districts are moving students out of self-contained science classrooms (where they often received little or no science instruction) and into inclusive science classroom settings, a 30% increase in the last decade. This steady increase of inclusion is highly beneficial to students, but it creates special challenges for teachers of science, many of whom were not trained in special education. In inclusive science classrooms, all students are expected to meet *standards* for science education. These *standards* include developing understandings of science content knowledge and scientific thinking skills (National Research Council, 1996).

The Classroom Instruction with Technology for Inclusion: The Science Instructional Practices Inventory (CITI:SIPI) is an instrument for inservice and preservice science teachers to use to reflect and think about a variety of factors they must manage to influence student science learning in inclusive classrooms. These include instructional strategies, inquiry supports, assessment tasks, and classroom culture. In addition, *CITI:SIPI* items prompt science teachers to think about how to (1) use pedagogical content knowledge to customize learning materials to meet the diverse learning needs of students, (2) use instructional technology appropriately in different instructional contexts, and (3) improve communication with a variety of individuals within the school community.

The *CITI:SIPI* was developed in collaboration between two university faculty members, a science educator/researcher and a special education educator/researcher, partnered with a classroom science teacher and a special education teacher who co-instructed in an inclusive high school science classroom. The development of the *CITI:SIPI* was informed by (1) educational research, (2) recommendations from national organizations involved with enhancing teaching and learning, and (3) data gathered from curricular implementations in inclusive science classroom settings through the collaboration.

The inventory consists of three major sections: *Curriculum and Instruction*, *Technology*, and *Communication*. Each of these sections is subdivided into subsections. Each subsection is further subdivided into distinct focus areas. Figure 1 displays each section with its subsections and focus areas. Each focus area consists of a series of questions and reflective statements about one's instructional practices and learning environment.

Figure 1. *CITI:SIPI* categories

