DiALoG User Guide — Intrapersonal: Evidence

Evidence scoring statement and considerations:

As you use the DiALoG scoring tool in your classroom, you will determine if the following statement is Not Descriptive, Somewhat Descriptive, or Very Descriptive of the discussion you observe.

Students use evidence to support their ideas.

To help determine how well the statement describes the discussion you observe, you might also consider:

At the Very Descriptive level, students consistently support their thinking with quality evidence based on all available data, rather than on opinion. Students are able to evaluate all available evidence and determine which evidence is strongest and best supports a claim.

Possible student statements that indicate students are using evidence:

- *The data we collected suggests that . . . .*
- *The evidence says that . . . .*
- *I observed that . . . .*

Useful teacher prompts to model or provide opportunities for students to demonstrate using evidence:

- *What might be some evidence or data that supports what you think?*
- *What could you use to support your ideas?*
- *What observations support your ideas?*

Responsive Mini-Lesson Summaries

The Responsive Mini-Lesson (RML) summaries below are intended to help you understand how the lessons help students build facility with using evidence in a scientific discussion and to determine which RML is an appropriate fit for your students.

Not Descriptive

At the Not Descriptive level, students rarely use evidence to support their ideas. This might indicate that students have yet to be formally introduced to and/or develop an understanding of the nature of evidence in science.

To respond to a score of Not Descriptive, this lesson introduces students to an important distinction for quality evidence in science: evidence that is based on data versus opinions. Students examine evidence to support two claims about an everyday mystery—a broken vase—and determine which evidence is data and which is opinion. This accessible content helps students develop an initial understanding of quality evidence in science. The lesson concludes with a whole-class discussion of the activity. The goal of this lesson is provide students with an opportunity to differentiate between arguments based on data and observations and arguments based solely on opinion. Students also have an opportunity to consider the relevance of the available evidence when connecting it to a given claim.

Somewhat Descriptive

At the Somewhat Descriptive level, students sometimes use evidence to support their ideas. However, they are not consistent about offering quality evidence. For instance, they might choose evidence that is weak in comparison to other available evidence when supporting a claim.

To respond to a score of Somewhat Descriptive, this lesson has students focus on identifying strong evidence to support a scientific claim. Students differentiate between strong and weak evidence and supportive and non-supportive evidence for a claim about what kind of prehistoric organism a fossil tooth came from. The lesson concludes with students writing short scientific arguments that use strong evidence in support of a claim they have been considering. The goals of this lesson are to deepen students' understanding of why evidence is essential for argumentation, to practice identifying supportive evidence, and to discuss what makes evidence supportive of a claim.

These materials are based upon work supported by the National Science Foundation (award numbers 1621441 and 1621496).