

Transcript – Conceptual Understanding

As we explore the ideas of mathematical proficiency, computational fluency, and automaticity, we must also consider the role of conceptual understanding and how it relates to these concepts.

How do you define conceptual understanding?

Think about the question, and record your own definition of conceptual understanding.

Transcript – Conceptual Understanding (continued)

The National Research Council states that, "Conceptual understanding refers to an integrated and functional grasp of mathematical ideas. Students with conceptual understanding know more than isolated facts and methods. They understand why a mathematical idea is important and the kinds of contexts in which it is useful. They have organized their knowledge into a coherent whole, which enables them to learn new ideas by connecting those ideas to what they already know.

A significant indicator of conceptual understanding is being able to represent mathematical situations in different ways and knowing how different representations can be useful for different purposes." (National Research Council, 2001, pp. 118-119)

Transcript – Conceptual Understanding (continued)

How is conceptual understanding different from mathematical proficiency?

Conceptual understanding is one part of mathematical proficiency that is interwoven with and helps aid in reasoning, applying, computing, and engaging in meaningful mathematics.

Reflect on your definition of conceptual understanding. Are there any additions, deletions, or edits needed?