
Student Success \ Math & Physics and Biology

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Conceptual Understanding: Experts vs. Novices

CONCEPTUAL UNDERSTANDING (I): QUANTITATIVE CONCEPTS

Quantitative concepts: allows to make sense of situations with respect to variables involved and relations among variables. Needed for good problem solving strategies.

- If quantitative concepts are successfully acquired in arithmetic classes, these help in the transition to algebra.
- Experts make greater use of quantitative concepts while in problem solving.

CONCEPTUAL UNDERSTANDING (II): SCHEMAS

Better problem solvers have better conceptual understanding of mathematics.

Good Math students:

- Recognise schemas for different types of math problems.
- Are able to organize their mathematical concepts closer to content knowledge.