

TRADITIONAL OR BALANCED?

What beliefs characterize a traditional approach to math teaching?

- Mathematics is a set of rules to be learned rather than a body of interrelated concepts.
- Teaching mathematics is tantamount to telling students how to follow procedures rather than supporting students as they make sense of mathematics for themselves.
- Learning mathematics is a process of practicing and memorizing rather than a process of reasoning and sense-making.
- In other words...Don't ask me why.
- Earnest, 89)

What beliefs about how children learn math characterize a more BALANCED approach to teaching math?

- Mathematics is a web of interrelated concepts and procedures.
- One's knowledge of how to apply mathematical procedures does not necessarily go with understanding of the underlying concepts. That is, students or adults may know a procedure they do not understand.
- Understanding mathematical concepts is more powerful and more generative than remembering mathematical procedures.
- If students learn mathematical concepts before they learn procedures, they are more likely to understand the procedures when they learn them. If they learn the procedures first, they are less likely to ever to learn the concepts.
- Philipp, 2006