

# Mathematical knowledge - its growth through teaching

**Kluwer Academic - Mathematical Knowledge: Its Growth Through Teaching: 10 : Bishop, Alan, Mellin**

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## Mathematical Knowledge: Its Growth Through Teaching

Balacheff; and 9 Mathematical Values in the Teaching Process Alan Bishop. Drawing a line to join the points provides a visual representation of the relationship between the quantities. In contrast, students who were given the textbook definition of slope were not able to determine the slope in this example.

## Mathematics teaching resources

Conceptually, students need to understand that these are different ways of describing the same relationship. The particular lesson we use for illustrating principle 3, developing metacognitive skills, is the fourth in the series of computer activities.

## Pedagogical Content Knowledge

That course includes an intelligent tutor that provides students with individualized assistance as they use multiple representations words, tables, graphs, and equations to analyze real-world problem situations. We do not mean to suggest that this is the only curriculum that promotes a deep conceptual understanding of functions or that illustrates the principles of How People Learn.

## Theory into Practice: Growth Mindset and Assessment

We then provide three sample lessons that emphasize those principles in sequence. All three are important, but IN had the surface understanding that all three are necessary. The goal of this chapter is to illustrate approaches to teaching functions that foster deep understanding and mathematical fluency.

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