Math: Math and Measuring

What if math raised questions about what we can measure?

Tom wanted to raise some big questions about life, faith, and values as part of an elementary math unit on measuring and standard units of measurement.

“Measuring in different forms is a standard part of math, and I needed to cover that material. But I also wanted to stimulate the class to think about some big questions; I wanted them to see that you can ask these questions in math as well as in Bible class and social studies.

“I decided not to change the way I did the unit very much, but each time we measured, the students got to pick a new ‘big question’ on a colorful bubble hanging from the ceiling. I explained to the students that these were my questions, the ones I wanted to ask when I thought about measuring. It got the students thinking and talking. Here are some of the questions:

- Can we measure everything using math?
- Are there other ways of measuring things besides using math?
- Are there things that we can’t measure but that are still important?
- What measurement would we use for faith, hope, or love?

“I set up a mailbox so students could write their comments about the big questions on a 3" × 5" card. At the end of the unit I opened the mailbox and used these cards in a discussion that combined math and sharing time.”

What's going on here?

Tom saw his math lesson as an arena for asking big questions.

He engaged students in pondering big questions, making connections between the job of measuring and faith-related concerns, and expressing their own responses.

He reshaped his practice by modeling the questions he wanted students to consider, by making them a tangible part of the learning environment, and by creating a concrete way for students to respond (the bubbles and mailbox).

What does this have to do with faith, hope, and love?

Curiosity does not have to be idle speculation, and questioning does not necessarily indicate doubt; it's part of being alive to God's world. Curiosity and questioning are not the opposite of faith; they can be part of a growing faith and can help connect different parts of our experience with faith. Questions can be asked from within or outside a relationship with God.

What difference does this make?

By raising big questions in math, Tom signaled that this was okay outside of subjects such as Bible class and social studies. Often such questions are limited to one part of the curriculum by an unspoken custom. Both staff and students need to feel it is legitimate to ask big questions about life, faith, and values in all subjects.

Where could we go from here?

Teachers could explore other issues of quantifying and measuring; for example, if we can't measure or quantify something, does it matter? Are things less real if we can't measure them?

Digging deeper

Curiosity and asking questions can be part of a growing wonder at God's world and taking God, others, and the world seriously. Curiosity can be seeking answers as part of a lived faith, and that can include asking hard questions about key issues of faith and values. To use St. Anselm's phrase, it is a matter of "faith seeking understanding."

In the Bible, people such as Job, Jeremiah, and David ask big questions, such as why evil people prosper (Job 21:7), and God does not reproach them for it. Not asking questions about faith and life could be an indication of spiritual apathy.

> ***The first key to wisdom is defined, of course, as assiduous and frequent questioning. Peter Abelard***

> ***The important thing is not to stop questioning. Curiosity has its own reason for existing. One cannot help but be in awe when he contemplates the mysteries of eternity, of life, of the marvelous structure of reality. Albert Einstein***

In Western culture, sacred and the secular often are separated, and religious belief is viewed as a personal, private belief that must not impact public life or any parts of the curriculum except Bible class. This attitude has led to the fragmentation of knowledge into parts often seen as unrelated to each other and God. This division of knowledge is a relatively modern idea and is not one found in the Bible.

> ***Until about a century and a half ago, scientists and scholars commonly assumed that knowledge formed a coherent whole; more precisely, they assumed that all parts of knowledge ultimately could be connected because every area of knowledge focused on some aspect of one single divine creation. J. Turner***

The Bible sees life and knowledge as a whole. The entire world can reveal God, and all of life can be lived to his glory (1 Corinthians 10:31): the mathematician and the musician, the engineer and the artist—are all engaged in the same work of exploring God's world, even if they do not know it.

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