A
s mathematicians we are accustomed to using our analytical skills many times a day, whether we are pondering abstractions or deciding which route home will be best. But while the world knows that mathematical skills are part and parcel of performing complex calculations and proving theorems, most people have nothing to do with the application. We could think about teaching mathematics as something we do in school, and then apply those concepts to real-world problems.

But when understanding hits, the nonmathematicians characterize the argument as “common sense.” They’re presenting “common sense.” We know it is mathematics. But we don’t present mathematical reasoning as if it had anything to do with the logic of everyday life.

As mathematicians we frequently experience a difficult idea becoming clear; we call that understanding the concept. Nonmathematicians experience the same phenomenon. When understanding hits, the nonmathematicians characterize the argument as “common sense.” (If they understand the argument, it couldn’t be mathematics.) This is not a healthy split for mathematicians or for society. There are things we could do about it.

We could stop viewing mathematics as the abstraction that plays with the rules but has nothing to do with the application. We could think about teaching mathematics as part of an integrated whole—the Oregon Trail—instead of probability problems in the probability section of the text. This is hard work of course. But having mathematically literate students would be worth a lot.

Easier steps are that we could give homework questions and exam problems that employ common sense and analytical reasoning. In our regular teaching we could emphasize analytical reasoning as it arises in our daily lives. We could institute undergraduate mathematics modeling courses, where the stress is on modeling, not mathematics. In doing so, the beauty of Galois Theory, the clarity of Hilbert spaces remain undiminished. But the value of mathematics—and mathematicians—to society is much more apparent. And we might even see more sense in “common sense”.

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