

October, 1993 - George P. Evanovich, Mathematics

The Faculty Resource Network of New York University offered a summer seminar on "Current Issues in Mathematics and Mathematics Education" at the Washington Square Campus, June 2-15, 1993. I was privileged to participate in the seminar along with other professors from many colleges and universities across the United States.

The morning sessions were devoted to lectures and discussions on recent developments in pure mathematics, mathematical research and applications of mathematics. The morning sessions were guided by several outstanding research mathematicians. The areas covered were: mathematical modeling in the biological sciences, numerical computing, and knot theory.

The afternoon sessions were set apart for discussions of the following topics: encouraging women and minorities to pursue science and mathematics studies and careers, identifying and helping students to deal with mathematics anxiety, and the use of technology (primarily the use of hand-held graphing calculators) to enhance the teaching and learning of mathematics. These sessions were led by knowledgeable professors who possessed great experience in dealing with these issues.

Most of the knowledge presented in the seminar is applicable in modified form or directly to the classroom work of the college mathematics teacher. The degree to which the various topics can be of use is a function of the academic background of the students, the expertness of the teacher and the content of the particular course.

One of the dominant ideas of the seminar was to find ways to help the student look beyond mathematical formalism and manipulation to an understanding of the nature of mathematics and its applications in other fields. Over the last 2000 years mathematics has made a significant positive contribution to the history of humankind, and our students should be made aware of that contribution.

Mathematics is not in a world of its own. Philosophy is the polestar of all academic disciplines. Mathematics gets its sustenance from and gives sustenance to philosophy and the sciences as indicated by the following schematic.

MATHEMATICS

THEOLOGY

SCIENCES

PHILOSOPHY

LITERATURE

HISTORY

Mathematics is not a perfect science. The philosophers Wittgenstein and Russell pointed out that its foundations are a "little fishy." Anomalously, it has helped to make modern life more comfortable for humankind, and at the same time it has enabled people to construct weapons of humanity.

Perhaps this means there is a need for a continuous working together of all disciplines and a more inter-disciplinary approach for mathematics education at every level of instruction.