EDITORIAL

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Recently, I overheard an interesting discussion of two mathematics majors who were prospective secondary mathematics teachers. Their discussion focused on the mathematics courses required in the B.S.E. program for mathematics majors. One student was rather strong in her insistence that courses such as real analysis and abstract algebra were not appropriate for someone who is "only going to teach high school mathematics!" She indicated that she felt these courses to have little or no relevance for what she would be teaching and that such courses were used to get students to study "higher math." Both students finally agreed that prospective teachers needed more courses that focus on the teaching of high school mathematics.

My initial reaction to the views expressed in their conversation was one of disappointment. I suppose that I would like for students (especially prospective teachers) to have a love for and interest in mathematics that go beyond the specifics of high school mathematics. I finally acknowledged to myself that while this may be a worthwhile goal, it is probably somewhat idealistic. Upon further reflection, I began to consider why prospective mathematics teachers might have views such as those expressed by the two students.

First, it may be that this was a specific instance that reflects students' views of learning and education in gereral. Many students seem to see every learning experience as something that must be directly applicable to what they are doing today or to what they perceive as their future occupation. "I'm a business major so I only need enough mathematics to use in my job!" "I'm only going to teach high school math, so I don't need to know a lot of higher math." The second of the two preceding statements bothers me more than the first. I find it uncomfortable for teachers to have such a narrow view of mathematics and their roles as teachers. Such a teacher may very well have to respond to students' questions about the relevance of algebra and geometry.

Second, students may see mathematics as something that is rather static. The student may feel that the secondary mathematics curriculum is the same yesterday, today, and tomorrow. We know that numerous factors help to change and refine the curriculum. Calculators and computers, for example, have already had an impact on the curriculum and we are likely to see more changes in the future. How can we better communicate to prospective mathematics teachers the dynamic nature of mathematics and help them begin to understand how mathematics and mathematical thought evolves?

Finally, it is disturbing that students do not see that courses such as real analysis and abstract algebra *do* relate to what they will (or should) teach in high school mathematics courses. Ideas such as inverse, identity, group properties, field properties, number systems, relations, functions, etc. help provide a framework for teachers *and* students to better understand mathematics. These topics serve as unifying threads that help "tie together" much of the secondary mathematics curriculum. Again, those of us who have a part in the preparation of secondary mathematics teachers must find ways to help our students understand important relationships and encourage them to "dig a little deeper" in their study of mathematics.

I realize that I have not provided any solutions; I have simply shared some of my concerns. Expressing concerns is easy; finding solutions is much more difficult. MJMS would welcome responses to the thoughts shared in this editorial. These responses could be letters, guest editorials, or articles. One important function of this journal is to provide a forum for the sharing of ideas. We encourage you to share your thoughts with us and other readers of MJMS.