Welcome to this special theme issue of the AMS Notices, which highlights the many possible roles of mathematicians in precollege education.

Sybilla Beckman's piece offers a rare and valuable frog's-eye view of a mathematician who has spent significant time and effort working directly in an elementary school classroom. Dan Fendel discusses his work, slightly removed from the classroom, developing a high school curriculum for the Interactive Mathematics Program. Ed Dubinsky and Robert Moses write about curriculum development and also about its implementation, making important connections between mathematics teaching and the civil rights movement. Jim Lewis and Ruth Heaton, as well as Ira Papick, write about teacher preparation, and particularly about professors of education and mathematics collaborating to develop exemplary practices. Hung-Hsi Wu's piece also addresses teacher preparation. It offers valuable insights into the role that research mathematicians can play in certifying teacher content knowledge and gives an historical overview of the development of teacher education policy. My own contribution on the International Mathematical Olympiad describes a venue for mathematicians that is less widely known in the United States than in other countries. It describes work with those precollege students who are most likely to become our next generation of mathematicians.

So what is missing? Well, there is a dark side to the work of mathematicians in education. The landscape includes instances of squabbling, on intellectual, political, and even financial levels, over who knows best. Such dissension is not so much a role as a rather regrettable mode of communication, one that we have avoided in choosing articles for this issue.

Likewise absent from these essays is the role of the mathematician as corrector of errors in textbooks. That's too easy. There are errors in virtually any textbook, on any level. Of course errors are bad, and of course mathematicians can help by making sure that the mathematics in textbooks is correct. But the mathematics must also be appropriate—the right material, not just the correct material. So this role of “refining” the mathematics is one that belongs to the entire mathematics community, and not solely to the mathematician.

This last point is perhaps the most important one to be made here. Our community has a wide span. It includes not only researchers but also mathematics educators, policy setters, and teacher trainers. It includes classroom teachers of mathematics, some of who teach mathematics exclusively and some who teach mathematics within a context of wider responsibilities. And it includes consumers of mathematics: scientists, engineers, medical personnel, and lately also librarians and bankers. The community expands as our understanding of how to use mathematics in our lives expands.

Each of these smaller communities has a contribution—and each thinks its contribution is central. But in fact the task of education is so difficult and subtle that the expertise will have to remain distributed. The mathematics community must nevertheless find ways to synthesize the various contributions. The authors of these articles have begun this work.

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