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A CENTURY OF LEADERSHIP IN
MATHEMATICS AND ITS TEACHING

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PREFACE

Connecting the Disparate Ideas of Mathematical Modeling and Creativity

Mathematics educators in the United States are currently faced with the challenge of preparing for the incorporation of the *Common Core State Standards for Mathematics* (CCSSM) in their classrooms. Alan Schoenfeld talks about how he believes that the purpose of mathematics education is to help students to “make sense” of things. In the *Journal of Mathematics Education at Teachers College* (JMETC) we like to “make sense” of issues currently at the forefront of research in mathematics education. The mathematical modeling standard in the CCSSM does require some sense making.

Some educators believe that the CCSSM modeling standard will inhibit students’ abilities to be creative. When done correctly mathematical modeling, as the CCSSM states, is “a creative process.” This is the reason that the editorial board decided on the combined theme of *Mathematical Modeling and Creativity* for this issue of the JMETC. While mathematical modeling has been discussed within the mathematics education community *ad nauseam* since the 2010 publication of the CCSSM, creativity has not been a common topic despite the fact that there exists an abundance of research and literature in the field of creativity. For mathematics educators, utilizing the myriad resources available on creativity can help to resolve the mathematical modeling arguments with which we are currently presented.

The mathematical modeling articles presented here cover a wider range of subtopics than those of creativity. Since the CCSSM modeling standard is still in a stage of relative infancy, some of the mathematical modeling issues addressed here are heavily based on theory. Other articles serve as good early examples for teachers to use in their classrooms, either as they are presented, or as a generator for other ideas. The hope is that these articles give teachers things to think about to help them succeed with their mathematical modeling tasks and this is done with examples, suggestions, resources, and international perspectives of mathematical modeling.

The ten articles in this issue, written by a host of scholars at varying stages of their careers, provide a broad overview of some pertinent issues related to modeling and creativity, but the goal of this issue is not to present a single viewpoint of these topics; instead, readers should understand that there exists a broad list of shared attributes associated with mathematical modeling and creativity. Mathematical modeling is an important concept for teachers and students alike to understand, and it will be an important cog in curricula for the foreseeable future. The creativity articles interspersed in this issue of the JMETC invite readers to consider how these two topics overlap.

Andrew Sanfratello
Guest Editor