

Preface to the Third Edition

It has been fifteen years since the appearance of the Second Edition of this book. A lot has happened since then. The teaching reform movement has become a fact of life. Many of us have had occasion to rethink how and why we teach. Many of us have taken time to learn about the myriad of new (often OnLine) teaching devices that are available today. Among these are MOOCs (massive open online courses), the Khan Academy, flipped classrooms, clickers, smartboards, and the list goes on at some length.

Our goal with this new edition is to present a streamlined approach to our teaching philosophy. Many found the First Edition of this book to be attractive because it was only 80 pages. The Second Edition was 300 pages. It offered much more, but was correspondingly more cumbersome. One could easily read the First Edition during a long lunch hour. The Second Edition represented more of an investment of time and effort.

This Third Edition will be a slimmed-down version of the key ideas in the first two editions. We still want to emphasize the nuts and bolts of good teaching: prepare, respect your students, be flexible, be knowledgeable, be of good spirit, be a role model, and prepare some more. We have eliminated several sections which, from today's perspective, appear to be redundant. And we have revised and modified several other sections.

The other goal of this new version is to explore many of the new OnLine learning tools that are now available. Some of these will make little sense to the traditionally trained instructor. Others will be fascinating, and will give us new ideas of things to try.

One of the innovations in the Second Edition was the inclusion of ten Appendices by other mathematicians with strong views about mathematics teaching. Some of these scholars agreed with me, and some of them (very politely) disagreed with me. In this new edition, I omit these Appendices. But they are available at the Web site

www.math.wustl.edu/~sk/teachapps.pdf

These Appendices still have value, and offer many ideas of intrinsic interest. But, in the pursuit of brevity, we have consigned them to an ancillary venue.

It is a pleasure to thank Lynn Apfel and James Walker for a careful reading of various versions of this new edition, and for offering innumerable sage comments and suggestions. Dave Bressoud worked assiduously to bring me up to speed on everything that has been happening in math teaching in the past fifteen years. I have Bressoud to thank for much of what is interesting and modern in this new edition. I also thank my Editors Edward Dunne and Sergei Gelfand for their wisdom and guidance.

It is our hope that this new edition of *How to Teach Mathematics* will speak to a new generation of budding mathematics instructors, and inspire them to new strata of excellence in teaching.

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