

Contents

Part I The Foundations of Statistics Education

1	The Discipline of Statistics Education	3
2	Research on Teaching and Learning Statistics	21
3	Creating a Statistical Reasoning Learning Environment	45
4	Assessment in Statistics Education	65
5	Using Technology to Improve Student Learning of Statistics	91

Part II From Research to Practice: Developing the Big Ideas of Statistics

	Introduction: Connecting Research to Teaching Practice	117
6	Learning to Reason About Data	123
7	Learning to Reason About Statistical Models and Modeling	143
8	Learning to Reason About Distribution	165
9	Learning to Reason About Center	187
10	Learning to Reason About Variability	201
11	Learning to Reason About Comparing Groups	215
12	Learning to Reason About Samples and Sampling Distributions	235
13	Learning to Reason About Statistical Inference	261
14	Learning to Reason About Covariation	289

Part III Implementing Change Through Collaboration

Introduction: The Role of Collaboration in Improving Statistics Education in Learning, in Teaching, and in Research	311
15 Collaboration in the Statistics Classroom	313
16 Collaboration in Teaching and Research	325
References	343
Resources	373
Appendix: Tables of Activities	391
Author Index	397
Subject Index	405