

Contents

Preface to the First Edition	9
Preface to the Second Edition	13
1. Introduction	15
1.1 Facets of measurement	15
1.2 Purpose and plan of the book	19
2. Rasch Measurement: The Basics	21
2.1 Elements of Rasch measurement	21
2.1.1 The dichotomous Rasch model	21
2.1.2 Polytomous Rasch models	27
2.2 Rasch modeling of many-facet data	28
2.2.1 Putting the facets together	30
2.2.2 The sample data: Essay ratings	33
2.2.3 Rasch modeling of essay rating data	36
3. Rater-Mediated Assessment: Meeting the Challenge	39
3.1 Rater variability	39
3.2 Interrater reliability	42
3.2.1 The standard approach	42
3.2.2 Consensus and consistency	43
3.2.3 Limitations of the standard approach	45
3.3 A conceptual–psychometric framework	48
3.3.1 Proximal and distal facets	50
3.3.2 A measurement approach	52

4. Many-Facet Rasch Analysis: A First Look	55
4.1 Preparing for a many-facet Rasch analysis	55
4.2 Measures at a glance: The Wright map	57
4.3 Defining separation statistics.....	60
4.4 Applying separation statistics	63
4.5 Global model fit.....	67
5. A Closer Look at the Rater Facet: Telling Fact from Fiction.....	71
5.1 Rater measurement results.....	71
5.1.1 Estimates of rater severity	71
5.1.2 Rater fit statistics	74
5.1.3 Observed and fair rater averages	81
5.2 Studying central tendency and halo effects	82
5.2.1 Central tendency	83
5.2.2 Halo	86
5.3 Raters as independent experts.....	89
5.4 Interrater reliability again: Resolving the paradox.....	92
6. Analyzing the Examinee Facet: From Ratings to Fair Scores	95
6.1 Examinee measurement results.....	95
6.2 Examinee fit statistics	97
6.3 Examinee score adjustment	102
6.4 Criterion-specific score adjustment.....	109
7. Criteria and Scale Categories: Use and Functioning	113
7.1 Criterion measurement results.....	113
7.2 Rating scale structure	115
7.3 Rating scale quality.....	117

8. Advanced Many-Facet Rasch Measurement	123
8.1 Scoring formats	123
8.2 Dimensionality	124
8.3 Partial credit and hybrid models.....	127
8.4 Modeling facet interactions	132
8.4.1 Exploratory interaction analysis.....	133
8.4.2 Confirmatory interaction analysis	140
8.5 Summary of model variants	147
 9. Special Issues.....	 151
9.1 Rating designs.....	151
9.2 Rater feedback	156
9.3 Standard setting	159
9.4 Generalizability theory (G-theory).....	163
9.5 MFRM software and extensions.....	170
 10. Summary and Conclusions	 173
10.1 Major steps and procedures	173
10.2 MFRM across the disciplines	179
10.3 Measurement and validation	184
10.4 MFRM and the study of rater cognition	189
10.5 Concluding remarks	191
 References	 193
 Author Index.....	 227
 Subject Index.....	 235