

Contents

Preface	vii
1 Introduction	1
1.1 Facets of Measurement	1
1.2 Purpose and Plan of the Book	5
2 Rasch Measurement: The Basics	7
2.1 Elements of Rasch Measurement	7
2.1.1 Dichotomous Rasch Model	7
2.1.2 Polytomous Rasch Models	11
2.2 Rasch Modeling of Many-Facet Data	12
2.2.1 Putting the Facets Together	13
2.2.2 The Sample Data: Essay Ratings	17
3 Rater-Mediated Assessment	21
3.1 Rater Variability	21
3.2 Interrater Reliability	24
3.2.1 The Standard Approach	24
3.2.2 Consensus and Consistency	25
3.2.3 Limitations of the Standard Approach	27
3.3 A Conceptual–Psychometric Framework	30
3.3.1 Proximal and Distal Factors	32
3.3.2 A Measurement Approach	34
4 Many-Facet Rasch Analysis: A First Look	37
4.1 Preparing for a Many-Facet Rasch Analysis	37
4.2 Measures at a Glance: The Variable Map	40
4.3 Defining Separation Statistics	42
4.4 Applying Separation Statistics	45
4.5 Global Model Fit	49

5 A Closer Look at the Rater Facet	53
5.1 Rater Measurement Results	53
5.2 Rater Fit Statistics	56
5.3 Fair Rater Average	60
5.4 Central Tendency and Halo Effects	61
5.4.1 Central Tendency	62
5.4.2 Halo	66
5.5 Raters as Independent Experts	68
5.6 Interrater Reliability Again: Resolving the Paradox	71
6 Analyzing the Examinee Facet	73
6.1 Examinee Measurement Results	73
6.2 Score Adjustment	77
7 Criteria and Scale Categories	81
7.1 Criterion Measurement Results	81
7.2 Rating Scale Effectiveness	82
8 Advanced Many-Facet Rasch Measurement	86
8.1 Scoring Formats	86
8.2 Dimensionality	87
8.3 Partial Credit and Hybrid Models	90
8.4 Modeling Facet Interactions	95
8.4.1 Exploratory Interaction Analysis	96
8.4.2 Confirmatory Interaction Analysis	102
8.5 Summary of Model Variants	106
9 Special Issues	109
9.1 Rating Designs	109
9.2 Rater Feedback	114
9.3 Standard Setting	117
9.4 Generalizability Theory (G-Theory)	121
9.5 MFRM Software	128
References	131
Author Index	151
Subject Index	156