Invariant Measurement Using Rasch Models In The Social Behavioral And Health Sciences By Engelhard Jr George 2012 Paperback

The aim of this book is to bridge the gap between introductory and more advanced ‘technical’ books on quantitative methods, helping the reader to progress clearly.
The general theme of this book is to encourage the use of relevant methodology in data mining which is or could be applied to the interplay of education, statistics and computer science to solve psychometric issues and challenges in the new generation of assessments. In addition to item response data, other data collected in the process of assessment and learning will be utilized to help solve psychometric challenges and facilitate learning and other educational applications. Process data include those collected or available for collection during the process of assessment and instructional phase such as responding sequence data, log files, the use of help features, the content of web searches, etc. Some book chapters present the general exploration of process data in large-scale assessment. Further, other chapters also address how to integrate psychometrics and learning analytics in assessment and survey, how to use data mining techniques for security and cheating detection, how to use more assessment results to facilitate student’s learning and guide teacher’s instructional efforts. The book includes both theoretical and methodological presentations that might guide the future in this area, as well as illustrations of efforts to implement big data analytics that might be instructive to those in the field of learning and psychometrics. The context of the effort is diverse, including K-12, higher education, financial planning, and survey utilization. It is hoped that readers can learn from different disciplines, especially those who are specialized in assessment, would be critical to expand the ideas of what we can do with data analytics for informing assessment practices.
This book reviews the statistical procedures used to detect measurement bias. Measurement bias is examined from a general latent variable perspective so as to accommodate different forms of testing in a variety of contexts including cognitive or clinical variables, attitudes, personality dimensions, or emotional states. Measurement models that underlie psychometric practice are described, including their strengths and limitations. Practical strategies and examples for dealing with bias detection are provided throughout.
This user-friendly guide illustrates how to assess measurement invariance using computer programs, statistical methods, and real data.
This book develops an intuitive understanding of IRT principles through the use of graphical displays and analogies to familiar psychological principles. It surveys contemporary IRT models, estimation methods, and computer programs. Polytomous IRT models are given central coverage since many psychological tests use rating scales. Ideal for clinical, industrial, counseling, educational, and behavioral medicine professionals and students familiar with classical testing principles, exposure to material covered in first-year graduate statistics courses is helpful. All symbols and equations are thoroughly explained verbally and graphically.
Cited over 1900 times, this classic text facilitates a deep understanding of the Rasch model. The authors review the crucial properties of the model and demonstrate its use with a variety of examples from education, psychology, and health. A glossary and numerous illustrations aid the reader's understanding. Readers learn how to apply Rasch analysis so they can perform their own analyses and interpret the results. The authors present an accessible overview that does not require a mathematical background. Highlights of the new edition include: -More learning tools to strengthen readers’ understanding including chapter introductions, boldfaced key terms, chapter summaries, activities, and suggested readings. -Divided chapters (4, 6, 7 & 8) into basic and extended understanding sections so readers can select the level most appropriate for their needs and to provide more in-depth investigations of key topics. -A website at www.routledge.com/9780415833424 that features free Rasch software, data sets, an Invariance worksheet, detailed instructions for key analyses, and links to related sources. -Greater emphasis on the role of Rasch measurement as a priori in the construction of scales and its use post hoc to reveal the extent to which interval scale measurement is instantiated in existing data sets. -Emphasizes the importance of interval level measurement data and demonstrates how Rasch measurement is used to examine measurement invariance. -Insights from other Rasch scholars via innovative applications (Ch. 9). -Extended discussion of invariance now reviews DIF, DPF, and anchoring (ch. 5). -Revised Rating Scale Model material now based on the analysis of the CEAQ (ch.6). -Clarifies the relationships between Rasch measurement, True Score Theory, and Item Response Theory by reviewing their commonalities and differences (Ch.13). -Provides more detail on how to conduct a Rasch analysis so readers can use the techniques on their own (Appendix B). Intended as a text for graduate courses in measurement, item response theory, (advanced) research methods or quantitative analysis taught in psychology, education, human development, business, and other social and health sciences, professionals in these areas also appreciate the book‘s accessible introduction.
This book constitutes the proceedings of the 13th European Conference on Technology Enhanced Learning, EC-TEL 2018, held in Leeds, UK, in September 2018. The 42 full and short papers, 7 demo papers, and 23 poster papers presented in this volume were carefully reviewed and selected from 142 submissions. This year, the European Conference on Technology-Enhanced Learning (EC-TEL) will engage researchers, practitioners, educational developers, entrepreneurs and policy makers in a joint discussion on how to put science, technology and practice at the service of learning to embrace these challenges on the topic: Lifelong technology enhanced learning: Dealing with the complexity of 21st century challenges. /div Chapter "" is available open access under a Creative Commons Attribution 4.0 International License via link.springer.com.
This introductory text describes the principles of invariant measurement, how invariant measurement can be achieved with Rasch models, and how to use invariant measurement to solve measurement problems in the social, behavioral, and health sciences. Rasch models are used throughout but a comparison of Rasch models to other item response theory (IRT) models is also provided. Written with students in mind, the manuscript was class tested to help maximize accessibility. Chapters open with an introduction and close with a summary and discussion. Numerous examples and exercises demonstrate the main issues addressed in each chapter. Key terms are defined when first introduced and in an end-of-text glossary. All of the book’s analyses were conducted with the Facets program. The data sets used in the book, sample syntax files for running the Facets program, Excel files for creating item and person response functions, links to related websites, and other material are available at www.GeorgeEngelhard.com. Highlights include: A strong philosophical and methodological approach to measurement in the human sciences Demonstrations of how measurement problems can be addressed using invariant measurement Practical illustrations of how to create and evaluate scales using invariant measurement A history of measurement based on test-score and scaling traditions Previously unpublished work in analyzing rating data, the detection and measurement of rater errors, and the evaluation of rater accuracy A review of estimation methods, model-data fit, indices used to evaluate the quality of rater-mediated assessments, rater error and bias, and rater accuracy. Intended as a supplementary text for graduate or advanced undergraduate courses on measurement or test theory, item response theory, scaling theory, psychometrics, advanced

measurement techniques, research methods, or evaluation research taught in education, psychology, and the social and health sciences, the book also appeals to practitioners and researchers in these fields who develop or use scales and instruments. Only a basic mathematical level is required including a basic course in statistic.

The purpose of this book is to present methods for developing, evaluating and maintaining rater-mediated assessment systems. Rater-mediated assessments involve ratings that are assigned by raters to persons responding to constructed-response items (e.g., written essays and teacher portfolios) and other types of performance assessments. This book addresses the following topics: (1) introduction to the principles of invariant measurement, (2) application of the principles of invariant measurement to rater-mediated assessments, (3) description of the lens model for rater judgments, (4) integration of principles of invariant measurement with the lens model of cognitive processes of raters, (5) illustration of substantive and psychometric issues related to rater-mediated assessments in terms of validity, reliability, and fairness, and (6) discussion of theoretical and practical issues related to rater-mediated assessment systems. Invariant measurement is fast becoming the dominant paradigm for assessment systems around the world, and this book provides an invaluable resource for graduate students, measurement practitioners, substantive theorists in the human sciences, and other individuals interested in invariant measurement when judgments are obtained with rating scales.

This book applies Rasch measurement theory to the fields of education, psychology, sociology, marketing and health outcomes in order to measure various social constructs. The chief focus is on first principles of both the theory and its applications. Because software is readily available to carry out analyses of real data, numerous small examples are provided in the book. The software used in these examples, and which is helpful in working through the text, is RUMM2030 (Rasch unidimensional models for measurement). The book’s main goals are to equip researchers with the confidence they need in order to be in control of the analysis and interpretation of data, and to make professional rather than primarily statistical decisions mechanically. Because statistical principles are necessarily involved, reviews of the requisite statistics are provided in the Appendix. The content is based on courses that have been taught both online and in intensive form for over two decades. Although first principles are emphasised, much of the book is based on research conducted by the two authors and their colleagues.

Invariant MeasurementUsing Rasch Models in the Social, Behavioral, and Health SciencesRoutledge

English-medium universities around the world face real challenges in ensuring that incoming students have the language and literacy skills they need to cope with the demands of their degree programmes. One response has been a variety of institutional initiatives to assess students after admission, in order to identify those with significant needs and advise them on how to enhance their academic language ability. This volume brings together papers from Australia, Canada, Hong Kong, New Zealand, Oman, South Africa and the United States, written by language assessment specialists who discuss issues in the design and implementation of these post-admission assessments in their own institutions. A major theme running through the book is the need to evaluate the validity of such assessments not just on their technical quality but on their impact, in terms of giving students access to effective means of developing their language skills and ultimately enhancing their academic achievement.

This book introduces current perspectives on Rasch measurement theory with an emphasis on developing Rasch-based scales. Authors George Engelhard Jr and Jue Wang introduce Rasch measurement theory step by step, with chapters on scale construction, evaluation, maintenance, and use. Points are illustrated and techniques are demonstrated through an extended example: The Food Insecurity Experience (FIE) Scale.

This book is a valuable read for a diverse group of researchers and practitioners who analyze assessment data and construct test instruments. It focuses on the use of classical test theory (CTT) and item response theory (IRT), which are often required in the fields of psychology (e.g. for measuring psychological traits), health (e.g. for measuring the severity of disorders), and education (e.g. for measuring student performance), and makes these analytical tools accessible to a broader audience. Having taught assessment subjects to students from diverse backgrounds for a number of years, the three authors have a wealth of experience in presenting educational measurement topics, in-depth concepts and applications in an accessible format. As such, the book addresses the needs of readers who use CTT and IRT in their work but do not necessarily have an extensive mathematical background. The book also sheds light on common misconceptions in applying measurement models, and presents an integrated approach to different measurement methods, such as contrasting CTT with IRT and multidimensional IRT models with unidimensional IRT models. Wherever possible, comparisons between models are explicitly made. In addition, the book discusses concepts for test equating and differential item functioning, as well as Bayesian IRT models and plausible values using simple examples. This book can serve as a textbook for introductory courses on educational measurement, as supplementary reading for advanced courses, or as a valuable reference guide for researchers interested in analyzing student assessment data.

This introductory text describes the principles of invariant measurement, how invariant measurement can be achieved with Rasch models, and how to use invariant measurement to solve measurement problems in the social, behavioral, and health sciences. Rasch models are used throughout but a comparison of Rasch models to other item response theory (IRT) models is also provided. Written with students in mind, the manuscript was class tested to help maximize accessibility. Chapters open with an introduction and close with a summary and discussion. Numerous examples and exercises demonstrate the main issues addressed in each chapter. Key terms are defined when first introduced and in an end-of-text glossary. All of the book's analyses were conducted with the Facets program. The data sets used in the book, sample syntax files for running the Facets program, Excel files for creating item and person response functions, links to related websites, and other material are available at www.GeorgeEngelhard.com. Highlights include: A strong philosophical and methodological approach to measurement in the human sciences Demonstrations of how measurement problems can be addressed using invariant measurement Practical illustrations of how to create and evaluate scales using invariant measurement A history of measurement based on test-score and scaling traditions Previously unpublished work in analyzing rating data, the detection and measurement of rater errors, and the evaluation of rater accuracy A review of estimation methods, model-data fit, indices used to evaluate the quality of rater-mediated assessments, rater error and bias, and rater accuracy. Intended as a supplementary text for graduate or advanced undergraduate courses on measurement or test theory, item response theory, scaling theory, psychometrics, advanced measurement techniques, research methods, or evaluation research taught in education, psychology, and the social and health sciences, the book also appeals to practitioners and researchers in these fields who develop or use scales and instruments. Only a basic mathematical level is required including a basic course in statistic.

This volume focuses on priorities for research in language pedagogy. The aim is to give an up-to-date overview of current thinking about important research issues such as the viability of large scale comparisons, the quantitative/qualitative research controversy, new trends in language testing and evaluation, and the role of different learning environments. In their discussions of these issues researchers

from the US and from different countries in Europe show to what extent the priorities differ on both sides of the Atlantic Ocean.
This volume discusses pleasurable design — a part of the traditional usability design and evaluation methodologies. The book emphasizes the importance of designing products and services to maximize user satisfaction. By combining this with traditional usability methods it increases the appeal of products and use of services.
This book collects and organizes the original studies presented at PROMS 2014 conference on theories and applications of Rasch model. It provides useful examples of the Rasch model used to address practical measurement problems across a range of different disciplines including: Item Response Theory (IRT), philosophy of measurement, dimensionality, the role of fit statistics and residuals, application, educational application, language testing, health related research, business and industrial application and Rasch-based computer software. PROMS 2014 (Pacific Rim Objective Measurement Symposium) was held August 2 – 6, 2014 in Guangzhou, China. The goal of this conference is to bring together the researchers from academia, universities, hospitals, industry, management sector as well as practitioners to share ideas, problems and solutions relating to the multifaceted aspects of Rasch Model.
The purpose of this book is to present methods for developing, evaluating and maintaining rater-mediated assessment systems. Rater-mediated assessments involve ratings that are assigned by raters to persons responding to constructed-response items (e.g., written essays and teacher portfolios) and other types of performance assessments. This book addresses the following topics: (1) introduction to the principles of invariant measurement, (2) application of the principles of invariant measurement to rater-mediated assessments, (3) description of the lens model for rater judgments, (4) integration of principles of invariant measurement with the lens model of cognitive processes of raters, (5) illustration of substantive and psychometric issues related to rater-mediated assessments in terms of validity, reliability, and fairness, and (6) discussion of theoretical and practical issues related to rater-mediated assessment systems. Invariant measurement is fast becoming the dominant paradigm for assessment systems around the world, and this book provides an invaluable resource for graduate students, measurement practitioners, substantive theorists in the human sciences, and other individuals interested in invariant measurement when judgments are obtained with rating scales.
This book synthesizes the current research on headache triggers and details how improving the measurement properties of trigger assessments can benefit clinical and research efforts. The book begins with a detailed exploration of the history of triggers and their use in attempts to assign causes to headache attacks. Subsequent chapters then expound on the existing schools of thought on headache triggers with discussions of understudied influences on the causal assignment process, such as the role of individual trigger beliefs and perceptions. After laying this groundwork, the practical application of trigger assessment is thoroughly detailed, including assessment design types and methods of analysis. Chapters then outline the applications of trigger assessment in research and clinical practice. To conclude, the book relays descriptions of future directions and evolving theories in the area. Concise and comprehensive, Assessing Headache Triggers is an invaluable resource for clinicians who treat patients and investigators who aim to improve the lives of individuals with headache through their research. .
Researchers in all clinical fields are fully aware of the importance of Quality of Life measurements in judging the efficacy of a given treatment. Psychological criteria play an important role in this evaluation. Assessment of Quality of Life in Clinical Trials: methods and practice explores the current state of the art and illustrates the benefits and potential of health related quality of life assessment in clinical trials. It covers a wide range of analytical issues, emphasizing new and innovative approaches that are of practical and clinical importance.
This proceedings volume highlights the latest research and developments in psychometrics and statistics. It represents selected and peer reviewed presentations given at the 84th Annual International Meeting of the Psychometric Society (IMPS), organized by Pontificia Universidad Católica de Chile and held in Santiago, Chile during July 15th to 19th, 2019. The IMPS is one of the largest international meetings on quantitative measurement in education, psychology and the social sciences. It draws approximately 500 participants from around the world, featuring paper and poster presentations, symposiums, workshops, keynotes, and invited presentations. Leading experts and promising young researchers have written the included chapters. The chapters address a large variety of topics including but not limited to item response theory, multistage adaptive testing, and cognitive diagnostic models. This volume is the 8th in a series of recent volumes to cover research presented at the IMPS.
Under pressure and support from the federal government, states have increasingly turned to indicators based on student test scores to evaluate teachers and schools, as well as students themselves. The focus thus far has been on test scores in those subject areas where there is a sequence of consecutive tests, such as in mathematics or English/language arts with a focus on grades 4-8. Teachers in these subject areas, however, constitute less than thirty percent of the teacher workforce in a district. Comparatively little has been written about the measurement of achievement in the other grades and subjects. This volume seeks to remedy this imbalance by focusing on the assessment of student achievement in a broad range of grade levels and subject areas, with particular attention to their use in the evaluation of teachers and schools in all. It addresses traditional end-of-course tests, as well as alternative measures such as portfolios, exhibitions, and student learning objectives. In each case, issues related to design and development, psychometric considerations, and validity challenges are covered from both a generic and a content-specific perspective. The NCME Applications of Educational Measurement and Assessment series includes edited volumes designed to inform research-based applications of educational measurement and assessment. Edited by leading experts, these books are comprehensive and practical resources on the latest developments in the field. The NCME series editorial board is comprised of Michael J. Kolen, Chair; Robert L. Brennan; Wayne Camara; Edward H. Haertel; Suzanne Lane; and Rebecca Zwick.
The Encyclopedia of Social Measurement captures the data, techniques, theories, designs, applications, histories, and implications of assigning numerical values to social phenomena. Responding to growing demands for transdisciplinary descriptions of quantitative and qualitative techniques, measurement, sampling, and statistical methods, it will increase the proficiency of everyone who gathers and analyzes data. Covering all core social science disciplines, the 300+ articles of the Encyclopedia of Social Measurement not only present a comprehensive summary of observational frameworks and mathematical models, but also offer tools, background information, qualitative methods, and guidelines for structuring the research process. Articles include examples and applications of research strategies and techniques, highlighting multidisciplinary options for observing social phenomena. The alphabetical arrangement of the articles, their glossaries and cross-references, and the volumes' detailed index will encourage exploration

across the social sciences. Descriptions of important data sets and case studies will help readers understand resources they can often instantly access. * Introduces readers to the advantages and potential of specific techniques and suggests additional sources that readers can then consult to learn more * Conveys a range of basic to complex research issues in sufficient detail to explain even the most complicated statistical technique. Readers are provided with references for further information * Eleven substantive sections delineate social sciences and the research processes they follow to measure and provide new knowledge on a wide range of topics * Authors are prominent scholars and methodologists from all social science fields * Within each of the sections important components of quantitative and qualitative research methods are dissected and illustrated with examples from diverse fields of study * Actual research experiences provide useful examples

Written in an accessible style, this book facilitates a deep understanding of the Rasch model. Authors Bond and Fox review the crucial properties of the Rasch model and demonstrate its use with a wide range of examples including the measurement of educational achievement, human development, attitudes, and medical rehabilitation. A glossary and numerous illustrations further aid the reader's understanding. The authors demonstrate how to apply Rasch analysis and prepare readers to perform their own analyses and interpret the results. Updated throughout, highlights of the Second Edition include: a new CD that features an introductory version of the latest Winsteps program and the data files for the book’s examples, preprogrammed to run using Winsteps; a new chapter on invariance that highlights the parallels between physical and human science measurement; a new appendix on analyzing data to help those new to Rasch analysis; more explanation of the key concepts and item characteristic curves; a new empirical example with data sets demonstrates the many facets of the Rasch model and other new examples; and an increased focus on issues related to unidimensionality, multidimensionality, and the Rasch factor analysis of residuals. Applying the Rasch Model is intended for researchers and practitioners in psychology, especially developmental psychologists, education, health care, medical rehabilitation, business, government, and those interested in measuring attitude, ability, and/or performance. The book is an excellent text for use in courses on advanced research methods, measurement, or quantitative analysis. Significant knowledge of statistics is not required.

In this tribute to Benjamin Wright, former students and colleagues recall the foundational contributions he made to the theory and practice of measurement in a career spanning over five decades. Wright is recognized as the foremost proponent of the psychometric approach of Georg Rasch, a Danish mathematician, whose ideas continue to provoke controversy. Wright’s colleagues and students, and students of their students, are leaders in educational research and practice around the world. This volume relates the extent of Wright’s influence far beyond education and psychology, where his work in measurement began, into health care and the social sciences at large. The editors and contributors—all leading measurement scholars—trace the development of themes in Wright’s work, identifying the roots of today’s formative assessment methods, the integration of quantitative and qualitative data, and the contrast between scientific and statistical methods. These previously unpublished papers reflect on Wright’s lifelong passion for making measurement both more scientific and more meaningful. They recount how Wright’s insight, energy, and gregarious nature led him to produce multiple innovations in computing, estimation methods, model development, fit assessment, and reliability theory, stimulating practical applications in dozens of fields, serving on over 120 dissertation committees, and founding several professional societies. The volume includes three reprinted articles by Wright that provide insights into his early engagement with Rasch’s ideas. Psychological and Social Measurement will be welcomed by the broad international measurement community of professionals and researchers working in such diverse fields as education, psychology, health sciences, management, and metrology. Scientists working in any field involving measurement science and technology will appreciate an inside look at this seminal figure and a new perspective on the expanding conversation across the sciences about measurement and the communication of meaningful, transparent information.

Despite prodigious developments in the field of language assessment in the Middle East and the Pacific Rim, research and practice in these areas have been underrepresented in mainstream literature. This volume takes a fresh look at language assessment in these regions, and provides a unique overview of contemporary language assessment research. In compiling this book, the editors have tapped into the knowledge of language and educational assessment experts whose diversity of perspectives and experience has enriched the focus and scope of language and educational assessment in general, and the present volume in particular. The six ‘trends’ addressed in the 26 chapters that comprise this title consider such contemporary topics as data mining, in-class assessment, and washback. The contributors explore new approaches and techniques in language assessment including advances resulting from multidisciplinary collaboration with researchers in computer science, genetics, and neuroscience. The current trends and promising new directions identified in this volume and the research reported here suggest that researchers across the Middle East and the Pacific Rim are playing—and will continue to play—an important role in advancing the quality, utility, and fairness of language testing and assessment practices.

Psychologists, researchers, teachers, and students need complete and comprehensive information in the fields of psychology and behavioral science. The Corsini Encyclopedia of Psychology, Volume Four has been the reference of choice for almost three decades. This indispensable resource is updated and expanded to include much new material. It uniquely and effectively blends psychology and behavioral science. The Fourth Edition features over 1,200 entries; complete coverage of DSM disorders; and a bibliography of over 10,000 citations. Readers will benefit from up-to-date and authoritative coverage of every major area of psychology.

The need for a comprehensive volume that reviews both the processes and issues involved in developing, administering, and validating large-scale assessment programs has never been greater. These programs are used for many purposes, including instructional program evaluation, promotion, certification, graduation, and accountability. One of the

greatest problems we face is how to deal with special needs and bilingual populations. Examining these processes and issues is the mission of this book. It is organized into the following five sections: Introduction, Validity Issues, Technical Issues, Implementation Issues, and Epilogue. Each chapter follows a common structure: Overview of critical issues, review of relevant research, descriptions of current assessment methodologies, and recommendations for the future research and practice. Written by nationally recognized scholars,Large-Scale Assessment Programs for All Students: Validity, Technical Adequacy, and Implementation will appeal to anyone seriously involved in large scale testing, including educators, policymakers, testing company personnel, and researchers in education, psychology, and public policy.

This book focuses on the use of the Rasch measurement model in validation studies and in analyzing the psychometric properties of a variety of test instruments, questionnaires, and scales in international contexts. It broadly examines the development and application of Rasch modeling, providing in-depth analyses of the properties of various scales used in the fields of education, and humanities and social sciences research. The book includes exemplary works on educational research and practices that highlight recent and innovative applications, as well as theoretical and practical aspects of Rasch modeling. Readers will find it helpful to understand the latest approaches to Rasch measurement in educational research, as well as practices for future studies and quantitative research. 'This book provides a diverse set of perspectives on Rasch models from scholars across the globe. The volume is both theoretical and applied. The first section of the book provides an overview of Rasch modeling and explains the theoretical and conceptual framework underlying the Rasch model. The remainder of the book highlights multiple applications of the Rasch model within educational assessment as well as several examples of how Rasch modeling can be used for validation studies. This volume showcases the wide variety of ways in which Rasch modeling can be applied to assessment data to provide insights into students' achievement and learning and to improve instruction.'–Betsy McCoach, University of Connecticut, USA. 'A well-written collection of articles. Grouped by the theoretical and applied aspects of Rasch measurement, each chapter in this edited volume makes notable contributions to knowledge and practice. Written by leading scholars in the field, these chapters were written in a clear, succinct, and assertive manner, providing readers with up-to-date information, analyses, and debates. This book should be found in the core collection of emerging researchers and established scholars in educational measurement.'–Timothy Teo, Murdoch University, Australia.

Educational psychology is a broad field characterized by the study of individuals in educational settings and how they develop and learn. It incorporates information from such sub-disciplines such as developmental psychology, human development across the life span, curriculum and instruction, motivation, and measurement and assessment. Neil Salkind has mined the rich and extensive backlist of SAGE education and psychology journals to pull together a collection of almost 100 articles to be the definitive research resource on education psychology. Section One: Human Growth and Development focuses on the processes involved in human growth and development including ages and stages of development, different theoretical perspectives and the role and effectiveness of early intervention among other topics. Section Two: Cognition, Learning and Instruction concentrates on the mechanisms, through which individuals learn and retain information. Section Three: Motivation explores why individuals seek out goals and what the mechanisms are that characterize this search as it relates to learning. Section Four: Measurement, Assessment and Statistics looks at the topics that are critical to understanding individual differences, the growth in the use of computers as assessment tools, qualitative and quantitative methods, statistical techniques and evaluation.

In this first book of the series Survey Methods in Educational Research, we have brought together leading authors and scholars in the field to discuss key introductory concepts in the creation, implementation, evaluation and dissemination of survey instruments and their resultant findings. While there are other textbooks that might introduce these concepts adequately well, the authors here have focused on the pragmatic issues that inevitably arise in the development and administration process of survey instruments. Drawing from their rich experiences, the authors present these potential speed bumps or road blocks a survey researcher in education or the social sciences might encounter. Referencing their own work and practice, the authors provide valuable suggestions for dealing with these issues "your advisor never told you about." And all of the recommendations are aligned with standard protocols and current research on best practices in the field of research methodology. This book is broken into four broad units on creating survey items and instruments, administering surveys, analyzing the data from surveys, and stories of successful administrations modeling the entire research cycle. Each chapter focuses on a different concept in the survey research process, and the authors share their approaches to addressing the issues. These topics include survey item construction, scale development, cognitive interviewing, measuring change with self-report data, translation issues with surveys administered in multiple languages, working with school and program administrators when implementing surveys, a review of current software used in survey research, the use of weights, response styles, assessing validity of results, and effectively communicating your results and findings … and much more. The intended audience of the volume will be practitioners, administrators, teachers as researchers, graduate students, social science and education researchers not experienced in survey research, and students learning program evaluation. In brief, if you are considering doing survey research, this book is meant for you.

This book introduces current perspectives on Rasch measurement theory with an emphasis on developing Rasch-based scales. Rasch measurement theory represents a paradigm shift in measurement theory away from classical test theory and creates a framework for scaling that can yield invariant measurement. Rasch Models for Solving Measurement Problems: Invariant Measurement in the Social Sciences is a broadly accessible text. Authors George Engelhard Jr and Jue Wang introduce Rasch measurement theory step by step, with chapters on scale construction, evaluation, maintenance, and use. Points are illustrated and techniques are demonstrated through an extended example: The Food Insecurity Experience (FIE) Scale. The Rasch analyses in the book are run using the Facets computer program. Facets syntax, and R code for the ERMA

program created by the authors to obtain parameter estimates and to examine model-data fit, together with sample data sets are all available on a website for the book. Quantitative Methods in Educational and Social Research Using SPSS bridges the gap between introductory and advanced volumes on quantitative methods. Central to the text is an emphasis on the concept of modelling at the core of data analysis. The implications of the modelling approach are taken all the way back to the stages of research design and sampling, and use of simple descriptive statistics. Using this as a lens the book then moves on to explain carefully a full range of statistical techniques from basic procedures such as correlation and analysis of variance, to advanced methods such as multiple regression, path analysis and multilevel modelling. Key features of the book include: Crucial points illustrated by getting readers to work through key theoretical and analytical tasks A CD that offers step by step guidance on the use of SPSS and example analyses for each of the methods covered by the text Clear explanation of the conceptual background to all the analytical techniques included in the book A range of example datasets The aim throughout is to help you gain a fully-grounded conceptual grasp of different techniques, allowing you to apply these thoughtfully, as well as helping you progress towards a more advanced understanding through a step-by-step approach. This book is for you if you are a student or researcher in education or a related field and want an introductory resource that helps you get up to speed quickly.

This book provides a thorough background of the Model Cornerstone Assessments (MCAs) and the confidence measures administered to guide implementation by teachers, administrators, and the educational community.