2003 Annual Meeting Program

National Council on Measurement in Education

Chicago Sheraton Hotel
Chicago, IL
April 22 – 24, 2003

Future Meetings

2004	San Diego	April	13 – 15
2005	Montreal	April	12 – 14
2006	San Francisco	April	9 – 11
2007	Chicago	TBA	

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NCME Annual Meeting Training Sessions
Chicago, IL April 21 – 23, 2003

Admission to training sessions is limited to ticket holders. Tickets may be obtained by writing to Training/NCME, 1230 17th Street NW, Washington, DC 20036-3078. Please enclose payment and a self-addressed stamped envelope. Courses are subject to cancellation for insufficient registration. Some courses require advanced registration. The schedule of the sessions is tentative, and sessions will occur if there are a sufficient number of enrollees. Any tickets available at the conference will be sold on a first come, first served basis at the AERA/NCME registration area.

Monday, April 21   **9:00 – 5:00 PM**   **AA**

Generalizability Theory and Applications

Presenters: Robert L. Brennan, University of Iowa;
Xiaohong Gao, ACT, Inc.   Fee: $95

Generalizability theory liberalizes and extends classical test theory. In particular, generalizability theory enables an investigator to disentangle multiple sources of error through the application of analysis of variance procedures to assess the dependability of measurement. Consequently, generalizability theory is applicable to a broad range of measurement, evaluation, and testing studies that arise in education. The primary goals of this training session are to enable participants to understand the basic principles of generalizability theory, to conduct relatively straightforward generalizability analyses, and to interpret and use the results of such analyses. Mathematical and statistical foundations will be treated only minimally. Major emphasis will be placed upon quickly enabling participants to conduct and interpret relatively straightforward generalizability analyses, then more complicated ones. Examples will include consideration of writing assessments and other types of performance assessments. Prerequisites include the knowledge equivalent of one course in educational measurement and familiarity with ANOVA at the level treated in introductory graduate courses in education and psychology. A book written by the director and entitled "Generalizability Theory" will be distributed to participants and used as a principle reference in the training session. Computer programs for performing generalizability analyses will be discussed and illustrated.

| **Monday, April 21** | **9:00 – 5:00 PM** | **BB** |

The Kernel Method of Observed Score Test Equating

Presenters: Paul W. Holland, Alina A. von Davier, Dorothy T. Thayer, ETS   Fee: $95

Equating methods are used to produce scores that are comparable across different test forms. The Kernel Method of Test Equating (KE) is a unified approach to test equating based on a flexible family of equipercentile-like equating functions that contain the linear equating function as a special case. Any observed-score test equating can be viewed as having five steps or parts, each of which involves distinct concepts. The five steps are (1) pre-smoothing, (2) estimation of the score probabilities on the target population, (3) continuization, (4) computing the equating function, and (5) computing the standard error of equating and related accuracy measures. KE brings together these steps into a organized whole rather than treating them as disparate problems. KE exploits pre-smoothing by fitting log-linear models to score data, and incorporates the results of pre-smoothing into step (5) as well. KE provides new tools for comparing two or more equating functions and rationally choosing between them. The theory behind KE will be presented as well as its application to the Equivalent Groups, Single Group, Counterbalanced, and Non-Equivalent Groups Anchor Test (NEAT) Designs. KE allows a unified discussion of both Chained Equating and Post-Stratification Equating (frequency estimation and Tucker equating) for the NEAT Design. Handouts based on the book "The Kernel Method of Test Equating" will be distributed.

| **Monday, April 21** | **1:00 – 5:00 PM** | **CC** |

Open-Source Software for IRT Analysis: An Introduction to the Use of IRT Command Language Software and Related Software

Presenters: Alan D. Mead, American Institute of Certified Public Accountants; Patrick E. McKnight, University of Arizona; Yanwei Oliver Zhang, American Institute of Certified Public Accountants

Fee: $75

This training session will introduce participants to open-source item response theory (IRT) analysis software which is distributed cost-free. Open source means that users are free to examine and modify the underlying source code in order to better understand how the software works, and make modifications to the software. The main focus will be on the IRT Command Language (ICL) software, an IRT extension to the R computing environment, and related topics. After the training, participants will be expected to be able to use ICL and related software to analyze data and perform simulations. Participants should also understand when to choose ICL or related software for a project. The training session incorporates a mixture of presentation styles. In addition to traditional presentations, there will be interactive segments (e.g., question and answer) and hands-on use of the ICL and the IRT extension to R in small groups. Participants should have at least a basic understanding of IRT and experience using software such as SAS, SPSS, or BILOG to manipulate and analyze data. Also, participants are encouraged to bring a laptop (Windows 95 or better; MacOS 8 or better; or Linux) and a dataset for analysis.

| **Monday, April 21** | **8:30 – 12:00 PM** | **DD** |

Uses of Assessment Standards by Measurement Professionals

Presenters: Steven Osterlind, University of Missouri-Columbia; Janet Baldwin Anderson, American Institutes for Research

Fee: $25

The goal of this training session is to foster awareness and compliance among measurement professionals to relevant and important assessment standards. Within this goal are four primary purposes, including (1) to increase awareness among NCME members about the professional practice standards of external (and relevant) professional groups and organizations, (2) to increase awareness among members of external groups about NCME standards, (3) to explore ways to foster dialogue and mutually beneficial partnerships between members of external organizations and NCME for improving professional practices in measurement, evaluation, and assessment, and (4) to inform participants about the implications of new national educational assessment policy initiatives (ESEA of 2002, No Child Left Behind) on testing uses and practices and to discuss the APA/AERA/NCME Standards and the standards of other educational organizations that are relevant to these policy initiatives. From this training session, participants will gain increased understanding of the uses and applications of these professional standards and will consider how they can help address issues raised by the increased emphasis on testing in our schools. The training session consists of three parts, including brief lectures, panel discussion that includes audience participation, and a hands-on guided awareness portion.

| **Tuesday, April 22** | **8:30 – 12:00 PM** | **EE** |

Test Score Equating Without IRT

Presenter: Samuel A. Livingston, ETS

Fee: $25

This session is a non-mathematical introduction to test score equating, emphasizing conceptual understanding and practical applications. Topics include raw and scaled scores, linear and equipercentile equating, data collection designs for equating, selection of anchor items, and methods of anchor equating. The session starts with the assumption that participants do not know what equating is. By the end, the participants will understand, for example, the conditions under which the Tucker method of equating is biased, and why. The session is intended for professionals and graduate students in educational testing or in fields that make extensive use of standardized tests. It is especially appropriate for those who work or would like to work for testing organizations. It is also appropriate for anyone who wants to understand how testing organizations can report scores that are comparable when different test-takers answer different test questions. Pages from a booklet containing brief summaries of important points and illustrations will be used as displays in the course.

Tuesday, April 22   9:00 – 5:00 PM   FF

Graphical Models in Educational Assessment

Presenters: Russell G. Almond, ETS; Robert J. Mislevy, University of Maryland; David M. Williamson, Duanli Yan, ETS

Fee: $95

The term 'graphical models' refers to a probability distribution which is factored according to a graph—'nodes' of the graph represent variables in the distribution and 'edges' are chosen to representing conditional dependencies among the variables. Because conditional independence relations can be read from the graph, the graph serves as a guide to efficient computation strategy. Furthermore, the graph provides an intuitive picture of the statistical model. As such it provides a mechanism for communication between measurement specialists and domain area experts. Graphical models, especially the 'Bayesian networks' (graphical models over discrete spaces) have proved to be very popular in the artificial intelligence community producing applications in the following areas: medical diagnosis, reliability, military intelligence, speech recognition, music understanding, user modeling, and educational testing. The last application was the focus of the presenters' 2000 NCME award for Outstanding Scientific or Technical Contribution to Educational Measurement. The session is intended for people who have a good knowledge of probability and statistics (at the level of a college course in statistics and mathematics), but little experience with graphical models (Bayes nets) and related technologies. The session will consist of a series of lectures interspersed with live examples.

Wednesday, April 23   1:00 – 5:00 PM   GG

Finishing Up and Finding a Job: Practical Suggestions for Graduate Students in Measurement

Presenters: Deborah J. Harris, ACT, Inc.; Dara Martinovich – Barhite, Wisconsin Department of Public Instruction

Fee: $25

This training session is targeted towards graduate students in measurement who have questions in such areas as: where jobs are available (e.g., school districts, state departments); what types of things employers look for in application materials; what types of questions might be asked of an interviewee; what types of questions should an interviewee ask; what are possible dissertation topics; should I finish before I leave school; etc. The format of the training session will be a combination of lecture and discussion. The goal is to discuss concerns graduate students have. The session will provide resources, guidance, and reassurance for graduate students in job hunting situations. Materials from a variety of sources will be included, and speakers will cover a variety of situations.