NCME national council on measurement in education

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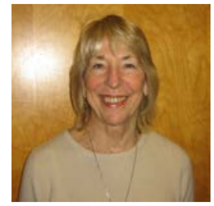
FROM THE PRESIDENT -

Linda L. Cook, Educational Testing Service



Dear Colleagues,

As I prepare for the October NCME Board meeting, I am reminded that six months of my term as NCME President have already passed. As a result, I have been reflecting on the progress we have made on the ambitious set of initiatives established by the Board at our April meeting. These initiatives have been assigned to appropriate NCME committees and the Board has been monitoring the good progress that the committees have been making on the initiatives. I thought I would use this opportunity to bring you up to date on the progress that has been made for a few selected initiatives, but, before I report on our initiatives, I'd like to provide you with an update on a few recent events.

Replacement of NCME Board member Mary Pommerich

Most of you have seen the recent announcement that Mary Pommerich found it necessary to resign from the NCME Board in response to a recommendation from her governmental agency that her service might violate the agency's policies on conflict of interest. We were all very sorry to lose such a valuable member from the Board. However, we were very fortunate that Joe Martineau, who was a close runner up to Mary in the elections last fall, was willing to step in and become a candidate for a Board member to replace Mary. For those of you who may not know Joe, he is the Executive Director of the Bureau of Assessment and Accountability in Michigan and his responsibilities consist of directing all planning, development, finances, contract, implementation, quality control, and reporting on statewide K-12 school testing and accountability programs. According to the NCME bylaws, in a situation where a Director position becomes vacant, the remaining Board of Directors can fill the vacancy by election. Once we were sure Joe was willing to accept the position, the Board held an election and unanimously voted to elect Joe as Mary's replacement.

I am looking forward to welcoming Joe to the Board at our October meeting. We will miss Mary, but we are hopeful that we will continue to be able to use Mary's talents to serve NCME in ways that her employer views as appropriate.

Selection of NCME Newsletter Editor

A second important position that we have recently filled is that of NCME Newsletter Editor. I am very pleased that Susan Davis-Becker has accepted this position. The process of appointing a Newsletter editor is managed by the NCME Publications Committee and begins with a call for nominations. Once the call is closed, the publications committee provides the NCME President with a slate of candidates that it feels are strongly suited for the position. The NCME President rank orders the candidates and the NCME Board discusses and approves the ranking; the NCME president then contacts candidates in the rank order approved by the Board. Susan will assume the position of Newsletter Editor beginning in January 2012. Susan, who is a Senior Psychometrician with Alpine Testing Solutions, has been actively involved with the Newsletter for the past six years, not only as a contributor, but also as a member of the NCME Newsletter Advisory Committee. She also brings to the Newsletter her prior experience as an Assistant Director at Buros Institute at the University of Nebraska-Lincoln. Susan will replace Thanos Patelis who has done an absolutely outstanding job as the Newsletter Editor for the past three years. I would like to take this opportunity to congratulate Susan on her new position and to thank Thanos for three years of superb service to NCME.

Update on Selected NCME 2011/2012 Initiatives

As I mentioned earlier, the Board has adopted a very ambitious set of initiatives for the 2011/12 time period. These initiatives include launching the new NCME website, strategic and financial planning, finalizing a number of outstanding contracts, launching a new edited book series, planning for the 75th anniversary celebration, developing an NCME Archives, improving our Annual Meeting Program, developing a plan to expand our training through the use of webinars, and improving the committee volunteer process. I'll provide a brief update about each of these activities next.

New NCME Website

As most of you know, the NCME website is being extensively revamped to provide a better platform for both members and nonmembers to share measurement-related information, locate resources, and stay informed of the latest happenings in measurement and in our organization. The website is being redesigned under the leadership of Kris Waltman, the Website Management Committee and the Website Content Editor, John Willse. I want to thank the committee, Kris and John for the tremendous effort they have put into managing this multi-year effort. The plan is for the website to be launched in stages with the initial launch targeted for December 2011. New features on the website will include: an expanded resource center, a calendar of events, and a discussion forum which will replace the NCME listserv. Watch for further communications about the new website as we get closer to the December launch.

Strategic and Financial Planning

Anne Fitzpatrick, chair of our Business and Finance Committee, has worked diligently with her committee and with the NCME Executive Committee to develop a proposal for financial planning that was approved by the Board at its July meeting. The proposal includes separate budgets for operational and initiative expenses with revenues also coming from separate areas. NCME initiatives are now funded solely through returns on our investment portfolio. This new plan will promote more efficient management of NCME operating expenses, but it puts a cap on the number of initiatives we can undertake in a given time period. The Board is considering ways we might develop other opportunities to increase revenue to support new initiatives.

Finalizing Contracts

This fiscal year, we have had two key contracts that have required renewal: our contract for management services with The Rees Group, and our contract for production and delivery of our journals with Wiley/Blackwell. I'm pleased to say that negotiations for both contracts have gone well. I have recently signed a five year contract (on behalf of NCME) with Wiley/Blackwell. The NCME Board has been very pleased with the services provided by Wiley/Blackwell and the new contract features increased services such as electronic journal access for NCME members. I would like to thank Wayne Camara for his leadership on this project. I have also recently signed, on NCME's behalf, a four year contract with The Rees Group. NCME appreciates the good work that The Rees Group has done to provide us with management services since 2005. I would like to thank Anne Fitzpatrick for her assistance in negotiating this contract.

Edited Book Series.

Progress on the NCME Edited Book Series is going well. The Editorial Board, which is led by Mike Kolen, consists of Robert Brennan, Suzanne Lane, Wayne Camara, Edward Haertel, and Rebecca Zwick. The Editorial Board is completing negotiations for publication of the series with Routledge, a subsidiary of Taylor and Francis Publishing Group, and has forwarded a contract to the NCME Board for review. Discussions are underway for a first volume with the prospective editor(s). A decision has been made for NCME and the editors to share the royalties on sales of the volumes.

75th Anniversary Celebration

The ad hoc Committee to Plan the 75th Anniversary Celebration, under the leadership of Neal Kingston, presented its proposal for a list of activities and events to the NCME Board at its July meeting. The Board was very pleased with the list of events that will begin soon with an invited session at the 2012 Annual Meeting. The invited session, organized by Daniel Eignor, is titled *Educational Measurement & NCME: Past, Present, and Future*. The session features distinguished panels who will share their insights on the measurement field. Events that have been planned for the 2013 meeting include videos of interviews with selected NCME members, a special Gala celebration and special events at the NCME breakfast. Other events for the 2013 meeting include the unveiling of an NCME time capsule and a special session highlighting measurement in the movies and comics.

Archives Project

The NCME Archives Project was initiated as part of the NCME 75th Anniversary Celebration, but has recently been given the status of an independent project. The goal of the project is to have an NCME archive in place by the 2013 Annual Meeting. Several alternatives for archiving NCME's papers and artifacts are being explored. These include both electronic and physical archives. It is likely that some hybrid will ultimately be developed. I can't stress how important it is to NCME's legacy to have as part of our operations the establishment and maintenance of an effective archival system. Such a system will provide future NCME members and researchers with a means to explore our organization's history and accumulation of knowledge. I'd like to thank both Gretchen Anderson and Barbara Plake for the hard work they have done on this project.

Annual Meeting Program Improvements

This year's Annual Meeting Program Chairs, Joanna Gorin and Andre Rupp, have been working extraordinarily hard to plan an exciting and informative program for the 2012 meeting in Vancouver and to implement a number of important changes suggested by the results of the survey of members conducted last fall. This year's program will emphasize practice and policy. A number of the sessions will focus on testing and school reform issues. We plan to take advantage of the international setting for the meeting and will have several sessions that focus on international testing issues. New session formats will also be experimented with; for example, for the first time NCME will hold a plenary session. The inaugural plenary session will be held Saturday morning and will feature John Easton, Director of the Institute of Education Sciences. An open discussion on how the testing community can help advance education practice and policy will follow Dr. Easton's presentation.

Expanded Webinars

The ad hoc committee on Web-based Training, headed by Amy Hendrickson and Terry Ackerman, are working on expanding the training session offerings we now live stream to developing countries during the Annual Meeting. The plan is to develop a library of videos based on training sessions presented at the Annual Meeting and to make these videos available to a more general audience at times other than the Annual Meeting. Amy and Terry presented a draft proposal for this work to the NCME Board at the July meeting. The draft proposal was well received and a final proposal will be presented at the October Board meeting for approval. The ad hoc committee is hopeful that they can begin providing training sessions via the NCME website in spring of 2012.

Improving Committee Volunteer Process

I want to thank all of you who have taken advantage of the new NCME volunteer portal that is now available on our website. The portal, which had been open since early June, was closed on September 30. It will reopen to gather committee volunteers for 2013 just prior to the 2012 Annual Meeting. The committee chairs will now be able to enter the software and to access background information about the NCME members who have volunteered for their committees. The new software will help us track volunteers and will ensure that all volunteers are considered for a committee and informed of whether or not they were selected for a committee in a timely manner. The new software should be ready for the committee chairs to use by sometime in early November. I would like to thank Lora Monfils for her leadership on this project.

In closing, I'd like to encourage all of you to vote in the NCME elections that will occur in late November or early December. All voting will be done electronically via the NCME website. When the ballots are ready, you will receive an e-mail with instructions for casting your ballot. There are occasions where the number of voters for NCME has resembled the turnout for a school board election on a rainy day. Don't let that happen this year! Your voice in the election is important, be sure to vote!

A Note From the Editor

Thanos Patelis, The College Board

In this issue we have the second column from our president, Linda Cook from Educational Testing Service. Next, our graduate student corner columnist, Chris Orem from James Madison University. Please also find an article by Scott Bishop, Karla Egan and Jerome Clauser regarding erasure analysis and procedures for ensuring quality. Then, we are also very pleased to offer the results of our interview with Damian Betebenner from the Center for Assessment. Finally, we have some interesting information in the *What's New* column followed by other calls and announcements. Sincerely and at your service, Thanos.

GRADUATE STUDENT CORNER: TRANSLATING MEASUREMENT THEORY INTO EVERYDAY LANGUAGE: TIPS FOR EFFECTIVE COMMUNICATION

Chris Orem, James Madison University

As I have confessed in earlier columns, I am partial to higher education assessment. I spend the majority of my day learning about assessment, conducting assessment, or consulting with someone about assessment. Over the past two years, I've worked with faculty members to craft objectives, analyze test items, and write reports that summarize assessment results. One of the lessons I learned quite quickly from working with faculty—and other professionals in higher education—is that those of us with measurement expertise speak a language that very few people outside of our field understand. The technical nature of measurement and statistics is complicated and most clients who I've worked with don't have the time or desire to understand the finer points of a mixed ANOVA or learn how to interpret the output from a CFA. I've watched multiple faculty and staff zone out when I start to stress the importance of reporting inter-rater reliability. These experiences have helped me learn that being able to communicate measurement concepts to someone with no background knowledge of the field is incredibly important. A client who doesn't understand why we have assumptions in statistics, or why reliability is an important consideration when making inferences about test scores, is one who is more likely to make ill-advised decisions regarding assessment results. Although I still have a long way to go in honing my communication skills, the following are some tips that I've used to effectively communicate technical concepts to higher education stakeholders.

1. **Examples are crucial**. I'm sure we've all been in a class where the professor is explaining a complicated concept and he or she uses some everyday example to make the point clearer. If you're like me, usually these examples are not only useful, but they tend to stick with me for a while. The same can be said about communicating measurement concepts such as reliability or item performance to faculty or clients who lack this foundational knowledge. When expressing technical information to anyone with a specialty outside of statistics or measurement, think of examples that can be understood by your audience. If you know that the person with whom you're working enjoys sports, think of ways to relate baseball to reliability. If you're meeting with your client for the first time, consider drawing on his or her field of interest for material. By using familiar examples, even basic ones, you can translate measurement concepts into a language your client can understand. For instance, if you are helping a professor of Theater and Dance understand the importance of inter-rater reliability, try comparing the use of multiple raters scoring a rubric to having multiple judges critique a dance performance in order to drive home your points.

2. **Your clients are experts in their own fields**. Just like you may not understand the finer points of mechanical engineering or 15th century British literature, the people with whom you work may not fully understand that scales have factor structures or that low reliability can severely limit the use of test scores for their intended purposes. With that said, remember to be patient with your clients, even when they just can't seem to grasp the basic points of what you're saying. When explaining a measurement concept, look for social cues from your clients to tell you whether or not they are following. Check with them at various points along the way to see if they have questions, but let them guide the conversation. Trust that if they have questions, they will ask. Showing faculty respect and patience while explaining difficult measurement concepts will build trust. This trust will help facilitate the learning process, making it more likely that the faculty member or client will ask clarifying questions until he or she feels comfortable with the concept you are explaining. If the faculty member understands why the psychometric properties of a test matter, then he or she may be more likely to recognize how a psychometrically-sound assessment can provide better evidence of student learning.

3. **Practice your pitch**. A few semesters ago, I took a statistics consulting seminar. In this course, my professor role played various consulting scenarios and I would have to consult with her as if she were my client. During this class, I fumbled multiple times to explain simple concepts to this "client" with no experience in statistics. I learned from the experience that even though I could interpret output and discuss results with my professor or other students, I needed a lot of practice explaining these concepts to someone who lacked any knowledge of statistics. One way that I have worked on this skill is to practice what faculty in my program call elevator pitches—one minute spiels about anything from defining reliability to explaining p-values (something you could deliver in the span of an elevator ride, get it?). Having well-rehearsed and succinct explanations of complicated measurement—and assessment—related concepts can improve the communication between you and your client and helps to build your credibility as a measurement expert. Obviously, not every concept can be explained in a

minute, but hopefully you get the point that when explaining test theory to a faculty member, practice makes perfect.

I've written a lot in this column about working with faculty, primarily because they are my main clients. However, the above rules of thumb apply in any situation, whether it's teaching students in a class or consulting with lawmakers in government about important test-related policies. And even if your current career aspirations won't carry you anywhere near a classroom or Washington, D.C., it's still important to be able to communicate technical language effectively. Take the advice offered by Dr. Kurt Geisinger during a panel discussion at the 2010 Northeastern Educational Research Association conference. When asked whether or not it was important for psychometricians to be able to communicate advanced techniques to a lay audience, Dr. Geisinger commented (and I paraphrase) that psychometricians are often called into court to defend their analytic practices, especially regarding high-stakes assessments. These testimonies aren't likely to do much good if the judge (who by all accounts will not be an expert in measurement) cannot understand what it is the psychometrician is explaining. Thus, being unable to explain and justify your work may end up costing you or your company much more than an afternoon in court.

Dr. Geisinger's comments bring home an important point: No matter what path we take in our graduate work, and no matter what career choices we make, we need to be able to communicate the importance of our work to outside stakeholders. Whether it's to educate students more effectively, help faculty members design better tests, or convince a judge that your company is conducting meaningful, accurate, and effective work, we always need to be thinking of ways to express ourselves in a language that anyone can understand.

RECOMMENDATIONS FOR CONDUCTING ERASURE ANALYSES

N. Scott Bishop, ACT Inc.; Karla L. Egan, CTB McGraw-Hill; & Jerome C. Clauser,
University of Massachusetts, Amherst (not pictured)

Educator cheating on large-scale assessments has made national headlines several times over the last two years. At the core of many of these incidents were suspect erasure patterns involving high wrong-to-right (WR) erasure counts. Additionally, U.S. Secretary of Education Arne Duncan (2011) recently wrote to the Chief State School Officers encouraging their due diligence in assuring the quality of their programs' data via 'forensics analysis' and similar procedures. Consequently, vendors should be paying much greater attention to erasure analysis methodologies in the coming years.

Given the current push in K–12 assessment toward computer-based and computer-adaptive testing, it is tempting to consider erasure analyses an anachronism that will be thrown in the dustbin with paper-and-pencil tests. Even if this switch is inevitable, the technological infrastructure necessary for computerized testing is lacking on a nationwide basis, and it seems very unlikely that this infrastructure will be in place in the next few years. As we prepare for the "next-generation" of assessment, it is important that we continue to improve our practices with the assessments we have now.

This article presents practical recommendations that will assist vendors in developing or reevaluating their current procedures for erasure analyses. These steps include engaging a state's Technical Advisory Committee (TAC), improving data collection, enhancing the way answer documents are processed and data files created, developing better ways to analyze erasure data, and communicating results.

Defining Erasures

Before recommending ways to develop or improve procedures associated with erasure analyses, it is important to define *erasure*. On the surface it seems obvious: an erasure occurs when an answer has been erased from a bubble grid, and the erasure is the residual mark that remains when a different answer has been chosen. Within erasure analyses, though, it is important to distinguish between *regular* and *irregular* erasures (W. J. van der Linden, personal communication, August 25, 2011). Regular erasures are those that occur for innocent reasons, such as a student changing his/her mind about his/her original answer. Irregular erasures occur for nefarious purposes, such as an educator changing the answers of less-able students. It is these erasures that we want to detect.

Engage TAC Members

Practitioners will find little guidance in the literature as there have been few published research papers on erasure analyses (Qualls [2001] and van der Linden & Jeon [in press] are the exceptions). Therefore, it is advantageous for programs to engage their technical advisory panels in detailed discussions about their current or proposed procedures. Not only may technical advisors have new ideas about what data should be collected and how it might be analyzed, TAC support of whatever plan is implemented is important, as it provides a state with evidence of the psychometric quality of the procedure.

Improve Data Collection

Erasure analyses are best conducted at the group level. Many K–12 assessments are low-stakes for students but high-stakes for teachers and administrators. Thus, it seems likely that a breach of test security involving erasures will occur at the group level versus the student level. For this reason, it is important that we work with states to improve data collection methods, particularly concerning the proctor information for each group of students. Schools will often forgo identifying specific proctors, and instead put all students under a general classification such as "Grade 3." In elementary grades, the teacher is often the proctor of the statewide assessment. In the case of middle school and high school students, it may be necessary to capture both teacher and proctor information since they may differ. As we look to improve the way that we analyze data, it is important that schools and districts are held accountable for appropriately aggregating students by their test proctors.

Answer Document Processing and Data File Creation

Becoming more familiar with the imaging technology and the coding used to create erasure data files is another good step. Imaging scanners are often sensitive to both the darkness of a marked response and the percentage of pixels covered in each response area 'bubble.' Programmers then use rules for translating the information that is imaged into the erasure data files to be processed. Some state programs might use the same rule sets while others may have unique rules based on historic values. While a detailed understanding of the specifics is not required, at least some effort should be made to understand what is happening behind the scenes (what darkness gradient and pixel coverage represents a single item response; what represents a double-gridded response versus what represents a response with a darkest versus second-darkest mark; etc.).

The information provided in erasure data files should be reevaluated. More information captured would permit different, and potentially more powerful, erasure analysis approaches to become possible. Many clients are only interested in the count of WR erasures. However, it is important to account for all types of erasures for each item, and include wrong-to-wrong (WW) and right-to-wrong (RW) erasures in addition to WRs. It could prove interesting to capture the darkness gradient and pixel coverage associated with each item's response too. It is possible that the marks left by a cheating educator are different in gradient and/or pixel coverage than those left by students, and in particular younger students.

Analysis Procedures

It is advisable that some of the analytic procedures underlying erasure analyses be simple and direct. Any results from these procedures could be covered by media and may have negative consequences for classroom teachers as well as school and district administrators. Because of the potential consequences associated with the erasure results, we advise the use of multiple analysis procedures. Further, different methods tend to flag different observations, so some mechanism of combining results into one overall threat index should be considered.

Descriptive statistics at the item, student, class, school, district, and state levels for the marginal counts (total erasures, WRs, RRs, and RWs) are a starting point. It is important that end users understand the frequency with which the various types of erasures occur at these different levels of aggregation. As an aside, regular erasures are fairly rare events, found to occur in less than one out of every 50 students, per item, in one study (Primoli, Liassou, Nhouyvanisvong, & Bishop, 2011).

It is common to conduct hypothesis testing to flag individual examinees with high numbers of erasures. With the hypothesis test, the null hypothesis is the probability of regular erasures, which can be modeled as a function of the item parameters and the examinee's ability. The alternative hypothesis is that irregular erasures have occurred. Here, the individual examinee is appropriately the unit of analysis. It is also possible to conduct hypothesis testing at an aggregate level. For example, a classroom's mean WR answer changes are considered a random sample from the entire state distribution of WR answer changes (asymptotic normality is assumed using the central limit theorem). Specifically, this tests whether the mean WR answer changes are too high to be explained by random sampling. When the null hypothesis is rejected, then the classroom is flagged. A different approach standardizes the difference between a class's mean WR count and the state's mean WR by dividing by the standard deviation of all classroom means.

Although there are benefits from conducting analyses that are accessible to the media and public at large, these are by no means the only options available to practitioners. For example, if the same items were being erased within classes or schools, a pattern analysis across all students' vectors of erasures could be helpful. As seen in Figure 1, a graph of a suspect class's or school's erasure pattern (across items) relative to the state's results can provide a compelling supplemental visual. In addition to patterns across sequential item position, one might see patterns by item content or difficulty, operational versus field-test (FT) item sets, or anchor/equating item sets versus non-anchor item sets.

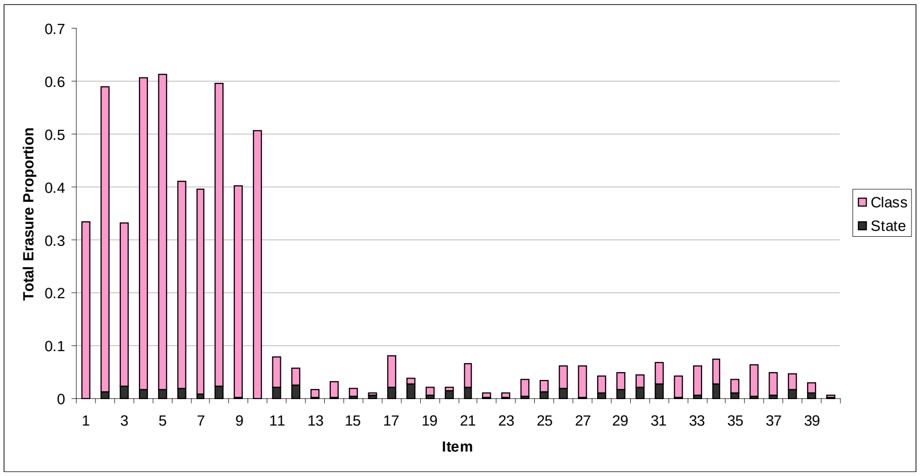


Figure 1. Hypothetical erasure results for an educator who may have targeted the first ten items for correction.

Generalized Estimating Equations (GEEs) offer a flexible analytic approach that allows model fitting with different distributions (e.g., Poisson) and link functions (e.g., Log) that may be more appropriate when modeling erasure data. Two other benefits of GEEs are that (a) different correlation structures can be posited (e.g., the nesting of students within classrooms might imply that *unstructured* correlation settings be applied), and (b) sandwiched (empirically adjusted) standard errors can be made available.

If embedded FT items are used, contrasting the WR erasure prevalence on operational versus FT items is a reasonable check. Educators who erase might purposefully skip items they know are not operational (e.g., if item 20 on every form is different). Or, educators might change multiple answer sheets from a single test booklet, and thus, inadvertently *correct* student FT answers based on the wrong question. Both circumstances could result in a reduction in WR erasures on the FT items, but the second scenario could show commensurate increases in RW and WW erasures. If the RW and WW responses moved to the same response option, this would further suggest the educator was working from a single test booklet.

Longitudinal trends in erasures could be monitored and compared to test performance trends over the same period. A teacher, school, or district that is flagged over multiple years would be of interest as would a group flagged for the first time if there were much-improved test scores. Comprehensive databases would mean data mining techniques could be explored.

Communicating Results

Once the analyses are complete, the question necessarily becomes how to communicate the method and results to the testing public. Those who conduct erasure analyses rightly caution that cheating cannot be proved just because there are a high number of WR erasures. All classrooms and schools must have a chance to explain why they may have been flagged.

One question that is often debated is whether or not to disclose that erasures are monitored to detect anomalous testing behavior. If the method is known, it may become less effective in detecting aberrations, as educators who cheat will simply change their tactics. While this is possible, it is important that the methods for flagging educators, schools, and districts be transparent. The results of these analyses can have serious consequences for educators, and it is only fair that the methodology used for the erasure analyses be available for those individuals to examine and rebut.

Conclusions

Erasure analyses should be conducted for all large-scale paper-and-pencil testing programs where consequences for students and/or school personnel are present. These analyses should be conducted in a transparent manner, and all flagged schools should be further investigated for possible impropriety. As educators become more aware of erasure analyses, it is likely that unethical educators will find new ways to cheat, making abnormally high WR erasure counts less effective as a flagging mechanism. Perhaps ironically, inspection of results for abnormally low erasures counts might become the focus if certain forms of cheating become more common.

While we have focused on erasures, our industry must develop detection methods for other forms of cheating as well. As an example, some educators may be aware that equating items are being repeated in adjoining administrations. Embedding old operational items in field test positions and contrasting the performance shift of those items against the anchor set might be an informative means of flagging educators who retained copies of last year's items and used them to prepare for this year's test

(R. Hill, personal communication, June 6, 2011). Finally, common sense test security like the use of tamper resistant booklets, multiple test forms, or outside proctors can discourage cheating behavior before it starts. This approach not only reduces cheating in the aggregate, but also brings clarity and focus to practitioner' strategies for identifying abnormalities.

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SPOTLIGHT ON THE PEOPLE WHO MAKE OUR ORGANIZATION GREAT – DAMIAN BETEBENNER, CENTER FOR ASSESSMENT

For this issue, we are fortunate to receive some insights and reflections from Dr. Damian Betebenner. Below are his responses to our questions. Many thanks to his responsiveness and time. It's a great opportunity to get to know one of our members.

1. How did you get into the field?

Like almost everyone I know in this field, I got into it by accident. In 1995 I had just finished up my Ph.D. in Mathematics from the University of Wyoming and wasn't excited about a future of teaching freshman calculus in perpetuity. My girlfriend at the time was enrolled at the University of Colorado, Boulder so I convinced myself that going to Boulder, hanging out with her, and pursuing a second Ph.D. was preferable to a faculty position in a math department. I applied to the mathematics education program under the presumption that since I knew a lot of math, I'd be a great math educator. Lorrie Sheppard saw something in my feeble application and admitted me. After a few months in a School of Education I figured out that math education wasn't what I really wanted to do and switched into the Research Evaluation Methodology program. I couldn't have been more fortunate with faculty like Lorrie, Bob Linn (my advisor and chair of my dissertation), Ken Hopkins, Ernie House, Ken Howe, and Margaret Eisenhart there. My education was superb and really helped me to grow intellectually.

After finishing my Ph.D. and post-doc in Boulder, I accepted a tenure track position in the Education Research Measurement and Evaluation department at Boston College. I was at Boston College for three years and was fortunate to interact with many amazing students and faculty. Ultimately, I found the academic research setting inhibited my ability to work with state departments of education and get access to their rapidly emerging longitudinal data sets. Scott Marion, a fellow graduate student at Colorado, Boulder and associate director at the Center for Assessment, invited me for an interview and I joined the Center in summer 2007. The last 4 years have really been perfect in terms of the growth model development/consultation. The work that I began with the state of Colorado has allowed me to work with nearly 30 states on growth model development.

2. If you weren't doing this, what would you do?

Difficult to say. I imagine if I wasn't doing this I would have stumbled my way into something else, probably involving math, computers, data and teaching; something providing an intellectual challenge with the goal of helping others.

3. What advice would you have for graduate students who want to get into this field?

Beyond developing deep content expertise in some measurement related field, I would encourage graduate students to:

a. Actively seek out teaching and consultation opportunities to help them become expert teachers/communicators. Our field would benefit, I think, from better communication of ideas to stakeholders ranging from parents to policy makers. It isn't enough to be able to communicate at a technical level with one's colleagues.
b. Find ways to harness the changing digital landscape to enhance and market their content expertise. For example, my own work relies heavily on data analysis. To that end I have developed an open source software package using the open source software environment R to help with the analysis and visualization of results. I get

hundreds of emails from people around the world thanking me for taking the time to share my expertise with them. Open platforms combined with desire and expertise provide the opportunity for great impact.

4. When not undertaking your work at the Center, what do you do or like doing outside work?

Exercising (running, yoga), travel and nice restaurants with my wife, hiking and being outdoors in the Rocky Mountains.

5. What would you say has been one of the biggest innovations in psychometrics in the last decade or two?

Broadly, I'd say, the greatest innovation (perhaps I should say stimulus to innovation) in psychometrics has been the modern computer. Whether Cognitive Diagnostic Assessment, Computer Adaptive Testing or almost any other area of psychometrics, innovations in data collection and analysis, particular when implemented at scale, rest completely upon modern high speed computers. The costs of data storage ($/Tbyte), analysis ($/Gflop), transfer ($/Mbps) are decreasing exponentially while Network capacity is increasing exponentially and these factors will continue to stimulate innovation in all areas of society, including psychometrics.

6. When you go to conferences, how do you pick what sessions to attend?

It is usually some combination of what the topic is and who the speaker is. To be honest, in retrospect, that combination seems fairly uncorrelated with my satisfaction with the session. Some of the best sessions I've ever attended have been sessions where I have tagged along with a colleague. Henry Braun once recommended a session with Christopher Edley that remains one of the best I've ever seen.

7. Who has been a significant influence in your professional life?

I have been fortunate to have had teachers/mentors/students who have shared with me their wisdom and thirst for understanding. My advisors in mathematics, Farhad Jafari and Joe Martin, were instrumental in helping me to become a rigorous thinker and Bob Linn provided me with such a deep and practical understanding of measurement issues and their relationship to policy. Students (and now clients) have had a large influence as well. Teaching others well requires one to really understand the topic.

WHAT'S NEW?

This is a recent column to the NCME Newsletter. It is an opportunity for the membership to share new things of interest to each other. Please send any new items that are of interest to our members (e.g., new or forthcoming books, members who have changed jobs or new applications) by email to the editor (tpatelis@collegeboard.org). I hope you find this informative.

New Books

- *Applied Meta-Analysis for Social Science Research* by Noel A. Card

Published in August 2011 by Guilford Press

This book provides an overview and suggestions for planning and conducting a meta-analytic review. The book provides both fundamental and more advanced topics that include artifact correction, random- and mixed-effects models, structural equation representations, and multivariate procedures.

Go to: http://www.guilford.com/cgi-bin/cartscript.cgi?page=pr/card.htm&dir=research/res_quant&cart_id=786061.22065

- *Longitudinal Data Analysis: A Practical Guide for Researchers in Aging, Health, and Social Sciences* by Jason Newsom, Richard N. Jones, & Scott M. Hofer

Published in July 2011 by Psychology Press

This book describes procedures in analyzing longitudinal studies that permits readers to select the techniques that best fit their research. Analyses are shown with examples from major longitudinal data sets including practical information about their content and design.

Go to: http://www.psypress.com/longitudinal-data-analysis/reviews/

- *Understanding the New Statistics: Effect Sizes, Confidence Intervals, & Meta-Analysis* By Geoff Cumming
Published in July 2011 by Psychology Press

This book introduces effect sizes, confidence intervals, and meta-analysis. It contains many practical examples and suggestions in analysis and reporting.

Go to: http://www.psypress.com/understanding-the-new-statistics-9780415879682

ANNOUNCEMENTS: NCME

75TH ANNIVERSARY CELEBRATION

Save the date at the 2013 Annual Meeting!

Thanks to all of you who volunteered to be on the committee to plan the celebration of the 75th Anniversary of NCME. We have been able to form an excellent committee under the leadership of Neal Kingston from the University of Kansas. The committee members are: Neal Kingston (chair), Mary Lyn Borque, Dan Eignor, Anne Fitzpatrick, Dave Frisbie, Karoline Jarr (Graduate Student Representative), Barbara Plake, Jim Popham, Anta Rawls, Ed Roeber, Kris Waltman, and Gretchen Anderson (professional assistant).

The committee's charge is to design, plan, and oversee the 75th Anniversary celebration. The celebration will consist of a series of events culminating in a very special celebration that will be held at the 2013 Annual Meeting. The committee would like your suggestions for events that you would like to attend or participate in as part of the yearlong celebration. Please send any suggestions that you may have for celebrating this important event to Neal Kingston, nkingsto@ku.edu.

CALL FOR NOMINATIONS

NCME – Please go to the following link for details: http://www.ncme.org/about/awards.cfm

Call for the 2012 Bradley Hanson Award for Contributions to Educational Measurement – Due by November 14, 2011

The Bradley Hanson Award has been established to honor Bradley Hanson's contributions to the field of educational measurement and to further advance the goals embodied in his work. Applicants must propose a research project that promises to make a substantive contribution to the field of educational measurement and / or the development, instruction, or mentoring of new professionals in the field. A typical time frame for the expected completion of the proposed project is one to two years. The recipient will be awarded $1,250 and a commemorative plaque from NCME, which will be presented to the recipient at the 2012 NCME Annual Meeting in Vancouver. For additional information on the award, and past recipients and projects, please go to Bradley Hanson's homepage (http://www.b-a-h.com/).

Eligibility: To be eligible for the award a candidate must (1) be a member of NCME or be nominated by an NCME member and become a member by the time the award is presented at the 2012 NCME Annual Meeting; and (2) be working on a project that promises to make a significant contribution to the field of educational measurement and/or a significant contribution to the development of new professionals in the field. Individuals or groups of individuals at any stage in their careers are eligible.

Call for the 2012 Jason Millman Promising Measurement Scholar Award – Due by November 14, 2011

In 1995, the Department of Education at Cornell University initiated the Jason Millman Promising Scholar Program to honor the lifetime work of Dr. Jason Millman, to recognize his contributions to the field of applied measurement, and to continue Dr. Millman's support of scholars in their formative years who are just beginning their research careers.

Since 2003, the National Council on Measurement in Education with the support of the Millman endowment has continued the tradition of this award. As in the past, it is designed to honor Dr. Millman's work by recognizing a scholar at the early stages of his/her career whose research has the potential to make a major contribution to the applied measurement field. In addition to recognition by NCME, the successful candidate will receive $1,000. Only one candidate will be chosen to receive the award each year and will be presented the award at the annual meeting.

Eligibility: To be eligible for the 2012 Jason Millman Award an applicant must have received the Ph.D. after April 1, 2007. If confirmation is required, the review committee will use the date printed on the nominee's diploma. The nominee must also have two or more unique papers either accepted for presentation at an NCME annual meeting or published in NCME publications within the last five years; and have the support of his/her professional colleagues indicating that his/her work represents a significant contribution to the field of applied measurement.

Call for the 2012 Brenda H. Loyd Outstanding Dissertation Award – Due by November 11, 2011

The Brenda H. Loyd Award honors an outstanding dissertation in the field of educational measurement. The winner of the award will receive $1,000 and a commemorative plaque from NCME. In addition, the advisor or committee chair for the award-winning dissertation will receive a letter of congratulations.

Eligibility: Nominations will be accepted for dissertations completed between July 1, 2009, and June 30, 2011. The author of the dissertation need not be a member of NCME. However, the author's advisor must be a member of NCME.

Call for the 2012 Alicia Cascallar Award for Outstanding Paper by an Early Career Scholar – Due by November 14, 2011

The Alicia Cascallar Award for an Outstanding Paper by an Early Career Scholar has been established to honor Alicia's professional commitment and accomplishments and to continue her practice of mentoring and encouraging promising new scholars in the area of educational measurement. The award will be given to an early career scholar(s) who presented an outstanding paper at the most recent Annual Meeting. A cash award of $1,000, a citation, and a waiver of NCME conference fees for the following year will be provided as partial support for an early career member(s) of NCME to travel to the annual meeting. The award will be presented at the NCME Annual Meeting in 2012.

Eligibility: To have presented a paper in one of the two most recent (2010 or 2011) NCME meetings in a paper session or as part of a symposium or panel discussion. The author(s) must be an early career member of NCME (received their doctoral degree within 5 years of the annual meeting).

Call for the 2012 NCME Award for Career Contributions to Educational Measurement – Due by November 30, 2011

The award honors living persons whose publications, presentations, and professional activities over a career have had a widespread positive impact on the field of educational measurement. These contributions may include theoretical or technical developments, service to professional organizations, conceptualizations of educational measurement that have enhanced public understanding of measurement problems, applications of theory that have influenced the nature of educational tests and measurement, or innovative ideas that have significantly affected measurement practices. Award recipients receive a check for $1,000 and a commemorative plaque from NCME. In addition, recipients are invited to present an address at the next year's NCME Annual Meeting.

Eligibility: Nominations should be made by an NCME member.

Call for the NCME 2012 Annual Award for an Outstanding Technical or Scientific Contribution to the Field of Educational Measurement – Due by December 2, 2011

NCME is accepting nominations for an award for an outstanding technical or scientific contribution to the field of educational measurement. The award will be based on work completed in 2009, 2010 or 2011. Although the significant contribution could be part of an ongoing research program, the awarding committee will only give weight to the aspects of the work that have occurred and been published in the previous three year period. Examples of contributions include, but are not limited to, innovative ways of solving practical and theoretical measurement problems, inventive instrument development techniques, creative testing procedures or products, and scientific contributions of measurement to research methodology. Selection criteria are quality, inventiveness, and positive impact of the technology on the field of educational measurement. The work must appear in a research publication, but not necessarily an NCME publication.

Self-nominations are encouraged as are nominations of others. Applications completed by individuals or by groups are eligible for this award. Nominees need not be NCME members. A nomination consists of a 3 to 5 page statement summarizing the nature of the application. Nomination statements should clearly describe the application and explain how it is used to address a specific measurement problem. Additional supporting documentation pertinent to the contribution (e.g., relevant books, articles, software, or workshops) is recommended. Nominations should also include the names and addresses of two people who are familiar with the application. The awards committee may request further materials and may contact others who are likely to be able to evaluate the application. The award will be presented at NCME's annual meeting to be held in 2012.

AERA, Division D

Division D recognizes distinguished contributions to the field with three different awards: the Award for Significant Contribution to Educational Measurement, the Outstanding Quantitative Dissertation Award, and the Robert L. Linn Distinguished Address Award. Details of these awards can be found using the following link:
http://www.aera.net/divisions/Default.aspx?menu_id=70&id=361

Call for Nominations for the 2012 Award for Significant Contribution to Educational Measurement and Research Methodology – Due by November 30, 2011

This annual award recognizes published research judged to represent a significant advancement in theory and practice of educational measurement and/or educational research methodology. This award is not considered a lifetime achievement award; the significance of the contribution will be the primary consideration for this award. The research may be the work of an individual or a team of researchers. The winner will be announced and honored at the AERA annual meeting with a plaque and a $1,000 award.

Call for Nominations for the 2012 Outstanding Quantitative Dissertation Award – Due by November 30, 2011

This annual award recognizes a dissertation that makes an outstanding contribution to quantitative methodology of educational research. The winner will be recognized by the American Educational Research Association. Dissertations completed during the 2010-2011 academic year or prior to December 1, 2011 will be eligible for consideration for the 2012 Award.

Call for Nominations for the 2012 Robert L. Linn Distinguished Address Award – Due by November 8, 2011

This annual award recognizes published research judged to represent a significant advancement in theory and practice of educational measurement and/or educational research methodology. This award is not considered a lifetime achievement award; the significance of the contribution will be the primary consideration for this award. The research may be the work of an individual or a team of researchers. The winner will be announced and honored at the AERA annual meeting with a plaque and a $1,000 award.

Call for Nominations for the 2012 AERA Division D Early Career Award in Measurement and Research Methodology – Due by November 30, 2011

This annual award recognizes emerging scholars in the field of educational research and methodology. The award will rotate among the three sections of the division. The 2012 award will be in Educational Measurement, Psychometrics, and Assessment (Section 1). The winner will be announced and honored at the 2012 Division D luncheon and business meeting with a plaque and a $1,000 award.

To get the NCME Newsletter four times a year (March, June, September and December) go to http://www.ncme.org/pubs/ncmenews.cfm

Send articles or information for this newsletter to:

Thanos Patelis
The College Board
45 Columbus Avenue
New York, NY 10023

Phone: 212.649.8435
Fax: 212.649.8427
e-mail: tpatelis@collegeboard.org