CRESST Co-director Eva Baker was recently chosen by her peers to become the president-elect of the 22,700-member American Educational Research Association (AERA). As a professional association, AERA promotes high-quality education research, disseminates research findings of its members, and supports the use of education research in both policy and practice.

“AERA will benefit substantially from Eva’s expertise and leadership,” said CRESST Co-director Robert Linn, himself a former AERA president. “She has the right skills to help guide AERA’s future,” Linn added, “and has my whole-hearted congratulations.” “I was thrilled to hear the good news,” said CRESST Co-director Joan Herman, who has been Eva’s colleague and friend for more than 25 years.

Professor Baker’s term as president will commence at the end of AERA’s 2006 Annual Meeting, after a year of service as president-elect, according to Felice Levine, AERAs executive director. “I am especially honored to be selected by my colleagues to lead AERA at the point where research is so important to schools,” said Baker.

Dr. Baker succeeds Gloria Ladson-Billings, PhD, professor of curriculum and instruction at the University of Wisconsin, Madison. Dr. Ladson-Billings, an expert on multicultural education, assumes the AERA president’s office this year at the conclusion of the 2005 Annual Meeting, taking place April 11 to 15 in Montreal.

continued on page 5
Formative assessment. Accountability systems bank on the use of information to improve performance. Results-focused performance, or formative evaluation, is not new in education or in the business world, because looking at results makes sense. More than 40 years of research have supported the importance of teachers’ attention to student work by using questions and comments. The reasons posited for the effects of formative assessment on learning involve motivation, practice, and the information function of feedback to increase test performance. Recently, concern about formative assessment addresses the balance of formative and summative testing in designing an assessment system. Although a growth line for commercial test publishers, external sources of benchmark testing may focus too tightly on the accountability measure and not enough on supporting learning.

The point of formative assessment is to understand what the student is doing and why. Research in the area has taken many forms, from meta-analysis to more clinical studies. Reviews of research have reported relatively high effect sizes when feedback on performance led to the adaptation of instruction. Studies classified as moderate or strong in the use of formative assessment (feedback plus changes in instruction) had higher relative effect sizes.
CRESST IS VERY pleased to announce more than $2.8 million in new awards that will expand our current research, evaluation, and development programs. The new funding supports the following five projects.

U.S. Department of Education, Office of Special Education Programs Partnership for Accessible Reading Assessment

The Partnership for Accessible Reading Assessment is a collaboration between CRESST, the National Center on Educational Outcomes at the University of Minnesota, and Westat, a research corporation in Rockville, Maryland.

“Among the goals,” said Jamal Abedi, the Partnership’s co-principal investigator at CRESST, “is to develop research-based principles that will make large-scale reading assessments more accessible to students with disabilities.”

The researchers are also developing new reading assessments suitable for large-scale evaluation of students with disabilities and that will provide valid results for students and schools.

The CRESST award of $1,750,000 is distributed over a period of 5 years. Contact Jamal Abedi at jabedi@cse.ucla.edu for more information.

U.S. Department of Justice The Long-Term Effects of After-School Programming on Educational Adjustment and Juvenile Crime: A Study of the LA’s BEST After-School Program

Using a quasi-experimental design, CRESST is evaluating whether the LA’s BEST after-school program has long-term impact on critical outcomes for children, including achievement, delinquency, and crime.

“While there is belief that high-quality after-school programs make positive improvements on long-term student outcomes, the research base is quite slim,” said CRESST Senior Researcher Denise Huang, who leads the study. The CRESST research team will also analyze the cost-effectiveness of after-school programs such as LA’s BEST.

Research funding is $500,000 for a period of 2 years. For more information, contact Denise Huang at dhuang@cse.ucla.edu or Pete Goldschmidt at goldschmidt@cse.ucla.edu

United States Marine Corps Rifle Marksmanship Coaches Toolset

CRESST is partnered with the University of Southern California’s Behavioral Technology Laboratories to develop instruction and assessment software that will improve military marksmanship.

continued on page 6
CRESST IS PLEASED TO ANNOUNCE that its annual conference will be held on Thursday and Friday, September 8–9, 2005, at UCLA. As always, the CRESST conference will feature many of the top researchers and practitioners in the field of accountability. This year promises a new format—a conference within a conference—so that we can delve more deeply into a specific topic in addition to offering our usual broad coverage. Please save September 8–9 on your calendars and feel free to contact me at any time with questions you may have.

Ron Dietel
dietel@cse.ucla.edu

Just a few presenters from last year’s 2004 conference:

The CRESST Co-directors, Eva Baker, Robert Linn, and Joan Herman
Michael Cohen, ACHIEVE
Michael Kirst, Stanford University
Hilda Borko, University of Colorado at Boulder
Robert Glaser, University of Pittsburgh
Daniel Koretz, Harvard University
Richard Shavelson, Stanford University
Jamal Abedi, CRESST/UCLA
Robert Mislevy, University of Maryland
Edward Haertel, Stanford University
Stephen Dunbar, University of Iowa/Iowa Testing Programs
Geno Flores, California Department of Education
Linda Darling-Hammond, Stanford University
Scott Marion, The Center for Assessment
Harold F. O’Neil, University of Southern California
Brian Stecher, RAND
Noreen Webb, UCLA/GSEIS/CRESST
Lorrie Shepard, University of Colorado at Boulder

See you in September!
Congratulations to CRESST partner and USC Professor Harry O’Neil on his election as a Fellow in the Evaluation, Measurement, and Statistics Division of the American Psychological Association. Approximately 10–20% of the APA membership are selected to become Fellows, based on outstanding contributions to their fields. Professor O’Neil also received a performance-based certification from the International Society for Performance Improvement (ISPI) in recognition of his skills in “systematically identifying and removing barriers to individual and organizational performance.” Only 8% of the ISPI members hold this honor.

A long-time CRESST partner, O’Neil has conducted research into computer-based assessment of workforce readiness, the teaching and measurement of self-regulation skills, and the role of motivation in testing.

### Baker to Become AERA President-Elect

Director of UCLA’s Center for the Study of Evaluation since 1975 and a CRESST co-director since its beginning, Professor Baker currently conducts research in the development of assessment and accountability models, as well as the design and validation of technology-based learning and assessment systems. Presently, she is helping to design sophisticated testing of performance assessment in large-scale environments for both military and civilian education. Products of CRESST’s work, such as the Quality School Portfolio, are helping schools across the country improve their achievement.

Influential in educational policy, Dr. Baker has testified before Congress on numerous accountability issues. She has chaired the National Research Council’s Board on Testing and Assessment as well as the Assessment Task Force of the National Council on Education Standards and Testing. The UCLA Alumni Association honored Baker in 2001 with a prestigious Professional Achievement Award.

Among her professional activities, Baker served as president of the American Psychological Association’s Educational Psychology Division and was co-chair of the AERA-APA-NCME Joint Committee for the 1999 revision of the Standards for Educational and Psychological Testing. The Standards help to guide test development and use across the United States. Baker has served on advisory groups overseeing the evaluations of the Elementary and Secondary Educational Act and on numerous state and district education advisory committees.

Her extensive international work includes studies of performance standards and national assessment policies for the Organisation for Economic Co-Operation and Development and the Asia-Pacific Economic Cooperation Education Reform Project. She also has advised ministries and universities in the United Kingdom, Latin America, the Middle East, Australia, Europe, and Asia and several international organizations.

Our congratulations to Eva Baker on this important accomplishment.

---

**She also has advised ministries and universities in the United Kingdom, Latin America, the Middle East, Australia, Europe, and Asia and several international organizations.**
New CRESST Funding
(Funding, Page 3)

“The Coaches Toolset that we are creating,” said CRESST Assistant Director for Technology Bill Bewley, “will allow a Marine Corps trainer to manipulate a virtual marksman on a computer display, assess proper shooting position, and improve performance.”

Drawing from its knowledge assessment research, CRESST is developing three separate assessment modules as part of the toolset. USC is developing a marksmanship data book-training module.

The amount of the award is $385,000 for a 1-year period. Contact Bill Bewley at bewley@cse.ucla.edu for more information.

Stuart Foundation
Effects of Expository Writing and Science Notebooks Program on Student Achievement

The Stuart Foundation has awarded CRESST $110,000 to evaluate the effects of Seattle Public Schools’ Expository Writing and Science Notebooks Program on student achievement. The program integrates students’ science and literacy learning through the use of science notebooks. The schools in the program use expository writing as a key strategy to develop students’ scientific understandings.

“Our evaluation,” said CRESST Co-director Joan Herman, “examines the effects of the program on student learning, the key factors that influence program success, and how the program might be improved.”

Contact Joan Herman for more information at herman@cse.ucla.edu

Lawrence Hall of Science
Seeds of Science/Roots of Reading Project Evaluation

Developed collaboratively by experts in science education and literacy development, the Seeds/Roots program at the Lawrence Hall of Science (LHS) is a multidisciplinary curriculum that supports primary grade students’ science and literacy skills. CRESST is assisting LHS in analyzing the implementation of the program and its success in engaging and motivating students. Evaluators will also examine how the curriculum units can be improved to facilitate implementation and enhance students’ learning in science and reading of informational texts.

The evaluation amount is $85,000 for a 1-year period. Contact Joan Herman for more information at herman@cse.ucla.edu

From Directors Notes
(From Page 7)

17. Chi, Bassok, Lewis, Reimann, & Glaser, 1989; Fuchs et al., 2004; VanLehn, 1996.
Cognitive learning. Cognitive learning, and in particular, the analysis of cognitive demands or requirements of performance, serves as another powerful frame for assessment system design. Cognitive demands should be understood as more than processes students go through to answer a question or perform a task, and rather as being an integral part of the criterion task(s). To support the attention to cognition in our assessment system, we looked at studies relevant to expertise and the acquisition of content skill and knowledge, and to mechanisms that support the generalization and transfer of learning. Major approaches emphasize cognitive structure, or how the organization of ideas and facts supports learning within and between formats, contexts, and settings.6

Instructional applications of structure have been labeled as “organizers,” “mental models,” or “scaffolding.”7 Key to these models are learners’ mental representations—how learners organize the relationships among principles, general rules, and procedural and conceptual or factual knowledge8 that in turn serve to facilitate pattern recognition and thus enable learning to proceed with greater speed, accuracy, and parsimony.9 The importance of understanding the core principles of a subject area and using them to organize knowledge (or for schema) has been found in many different subject areas, from interpreting X-rays, solving navigational problems, and playing chess10 to mathematics.11

How does it work? It is thought that experts operate at a high level by using relatively little “space” in their short-term memory, relying on patterns rather than separate bits of information and allowing more efficient learning of new ideas.12 On the other hand, novices or non-experts are distracted by the surface or superficial features of a problem and use up more time and space learning, perceiving seemingly unrelated content rather than the deeper principles to which it relates.13 The challenging problem has been, of course, transforming novices into experts, or at least moving them to be dependable and skilled performers when confronted with novel tasks.14 While such principled learning and transfer has been hard to achieve, recent research is promising but suggests that transfer and generalization must be specifically addressed.15

How do people generalize and transfer their learning effectively in real life—driving on a new road, figuring out the cost of a tile floor, or writing a letter to make a point? There is growing evidence that learners can learn to generalize and transfer over situations if they practice in a variety of contexts,16 and that self-explanation has power in learning principles,17 particularly where principles linking tasks and self-explanation are used.18 Any good assessment system would need both open-ended and multiple-choice models of formative assessment and external tests to support the development of schema or representations that are robust over different formats.19

The plan for our assessment system should be to clarify the elements that support instruction, elements that support the details of learning and memory, and elements that support transfer or the generalization of outcomes to other settings.

In an ideal assessment system, both formative assessment and cognitive learning work together to inform teaching and improve performance. Next time we will describe designs that accomplish both and provide some specific research-based examples.

See notes on Page 6.
Harry Handler

Longtime colleague and friend Professor Harry Handler passed away on February 20, 2005, after a long battle with cancer. A former superintendent of the Los Angeles Unified School District, Handler was an adjunct faculty member at UCLA’s Graduate School of Education and Information Studies and was involved in several CRESST evaluation projects. He earned a bachelor’s degree in mathematics from UCLA and his master’s and doctoral degrees in educational psychology from the University of Southern California. In 1968 Handler became the LAUSD director of research and development, then becoming the associate superintendent for instruction and serving as superintendent of LAUSD from 1981 to 1987. A memorial service was held Saturday, February 26, 2005, at Brentwood Science Magnet School in honor of Handler’s many contributions to children, teachers, colleagues, and friends.

Josie Bain

We mourn the loss but celebrate the life of former CRESST colleague Josie Gray Bain, who passed away on Thursday, March 17, 2005. Josie G. Bain began her career in education in 1948, as an elementary school teacher in the Los Angeles Unified School District. Promoted to the positions of assistant principal, principal, administrative coordinator, and area superintendent, she ended her LAUSD career as associate superintendent of instruction. She became a professor of urban education at Occidental College and a senior research associate for CRESST, working on a number of practitioner-focused projects. Dr. Bain was a co-author of CRESST’s *What Makes a Good School*, one of the most popular publications ever produced by the center. A trustee of the UCLA Foundation Board, Dr. Bain was laid to rest in Forest Lawn Cemetery in Glendale on March 23, 2005.