Is There a Better Way to Teach Mathematics and Science?
I am pleased to offer you another issue of *Ideas in Action*, a report on some of the activities underway at Peabody College of Vanderbilt University. As Vanderbilt’s college of education and human development, we take pride in our impact on the practice of teaching, learning, administration, and policy at all levels. While this report describes only a few of the many ways in which we are engaged with the world at large, I hope that you will take a few moments to discover more about what we are doing to optimize the human potential.

Peabody people are practice-oriented; our curriculum, research, and outreach all reflect this. Both those in academe and those in the trenches represent important constituencies for our work. Highlighted in this issue are articles on

* how Peabody redesigned its Ed.D. programs to make them more relevant for superintendents or school administrators,
* our new federally-supported national research center on school choice,
* new pre- and postdoctoral programs aimed at creating a cadre of better researchers in the learning sciences,
* new approaches to teaching math and science that demonstrate greater student achievement.

In special education, Peabody faculty continue to lead the way in helping students with disabilities. In fact, this summer, Peabody hosted the first of a series of federal meetings on proposed IDEA regulations.

Other articles indicate several of the ways we continue to collaborate locally, statewide, regionally, and nationally with classroom teachers, principals, superintendents, and education policy makers.

As dean, I’m proud of Peabody, its faculty and students, and of the role we play in the current education landscape. Increasingly, Peabody people are sitting at the table when the important discussions take place. Still, we have more that we can contribute and we look forward to doing so. If you’re curious, please don’t hesitate to contact us for more information—or better yet, come join us!

Sincerely,

Camilla P. Benbow
Patricia and Rodes Hart Dean of Education and Human Development
About Peabody

Peabody College, Vanderbilt University’s college of education and human development, seeks to maximize human potential by fostering lifelong learning. The College’s efforts are international in scope and focus on learners of all ages and abilities. Named for the 19th century education philanthropist, George Peabody, the College’s roots actually date back more than 200 years.

Peabody enrolls more than 1,100 undergraduates and more than 680 graduate or professional students. The College’s education programs, including special education, are situated in a context of attention to the entire span of human and community development, psychology, organizational leadership, K-12 and higher education administration, and education policy. The College offers nearly 30 graduate or professional majors, and eight undergraduate majors. Most academic programs include a strong practice orientation.

The full-time teaching faculty numbers approximately 150. Many faculty members are nationally recognized for their research, while others serve as editors of scholarly journals and leaders of professional organizations. Ten faculty members hold named, endowed professorships. The faculty is organized into five departments: Human and Organizational Development; Leadership, Policy and Organizations; Psychology and Human Development; Special Education; and Teaching and Learning.

A research institution, Peabody disseminates findings through dynamic partnerships with K-12 schools, higher education peers, government, and non-profit organizations, as well as through its more than 30,000 graduates.

Sponsored Research

Peabody received a record-shattering $35.3 million in external funding for research in fiscal 2005. Major grants included funding from the Institute of Education Sciences for a new National Research and Development Center on School Choice and for new pre- and post-doctoral programs for experimental education research training (ExpERT).

Phanthropy

In fiscal 2005, Peabody secured $735,000 in unrestricted gifts, and more than $4 million in restricted gifts. The College currently stands at $33.4 million toward its goal in Vanderbilt’s Shape the Future Campaign.

Peabody by the Numbers

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Average Entering Student Scores (Verbal + Quantitative, Fall 2005)

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U.S. News & World Report Rankings

Peabody has been ranked in the top 10 in the 11 years that U.S. News has been publishing rankings for graduate schools, and has been ranked in the top five the last three years. Among the top 10 schools of education, Peabody was the most selective, with a doctoral acceptance rate for 2004 of only 9 percent. Rankings for the 2006 edition are below.

Overall 5th
Special Education 1st
Administration/Supervision 2nd
Education Policy 6th
Elementary Education 6th
Curriculum/Instruction 8th
Higher Education Administration 10th
Secondary Education 10th

Selected Faculty Honors and Awards

Camilla P. Benbow, Patricia and Rodes Hart Dean of Education and Human Development
- Mensa Education and Research Foundation, 2004 Lifetime Achievement Award

Donna Y. Ford, Betts Professor of Education and Human Development
- AERA Committee on Scholars of Color in Education, 2005 Distinguished Career Contribution Award

Douglas Fuchs and Lynn Fuchs, Nicholas Hobbs Professors of Special Education and Human Development
- AERA Special Education Research SIG, 2005 Distinguished Research Award

Steve Graham and Karen Harris, Currey Ingram Professors of Special Education
- Council for Exceptional Children, 2005 Special Education Research Award

Stephen P. Heyneman, Professor of International Educational Policy
- 2005-2006 Fulbright New Century Scholar

Kathleen Lane, Assistant Professor of Special Education
- Council for Exceptional Children, Division of Research, 2005 Early Career Research Award

Andrew C. Porter, Patricia and Rodes Hart Professor of Educational Leadership and Policy
- University of Wisconsin-Madison School of Education, Alumni Achievement Award

Maury Nation, Assistant Professor of Human and Organizational Development, teaches in Peabody’s human development counseling program, which trains school and community counselors.
In January 2005, Steve Graham and Karen Harris joined the Vanderbilt faculty as the first Currey Ingram Professors of Special Education. The Currey Ingram Chair of Special Education was made possible through a gift from John Rivers Ingram and his wife, Stephanie Currey Ingram, in recognition of the critical importance that reading plays in children’s academic development. With a specific emphasis on program development, assessment and teacher training, the research supported by this chair targets attention and memory problems in K-12 students.

Professors Graham and Harris focus on educational interventions for students with learning disabilities and other at-risk students. Graham earned the Ed.D. degree at the University of Kansas, while Harris earned hers at Auburn University. Both have worked in the field of special education for more than 30 years and share a commitment to improving the literacy abilities of all children. Both also began their careers teaching in the public schools.

Professor Graham’s research focuses on identifying factors that contribute to, or hinder, writing development; identifying instructional practices that promote better writing (especially for students who experience difficulty learning to write); and examining how writing is taught and how teachers’ beliefs influence writing instruction. His current work emphasizes identifying effective procedures for preventing writing difficulties. Professor Graham notes that, “For many people, writing is a foe to be avoided at all costs. Figuring out how it works and how to make it work is a worthy challenge—one that will help us realize our educational, occupational, and personal potential.” In 1998, the American Educational Research Association (AERA) awarded Graham its Don Johnston Literacy Lectureship Award for career contributions to literacy.

Professor Harris’s research focuses on how to help children and adolescents become more strategic, motivated, and responsible for their work, particularly those students at-risk or with learning disabilities, attention-deficit hyperactivity disorder, or other learning challenges. She has worked to develop a set of writing and self-regulation strategies effective from the elementary through high school grade levels. Currently, she is coordinating multiple strategies for instruction in writing across the school year and across grade levels, and is redesigning this approach for students with severe emotional and behavioral disorders. She finds it especially satisfying to see students who believe they are “failures” discover that with the right “tricks” (strategies), they can write, and write well. Nationally, Professor Harris has served as president of the Division for Research of the Council for Exceptional Children, as an officer for AERA, and as a consultant for local, state, national, and international organizations.

Both Graham and Harris contribute to the leading journals in special education, general education and educational psychology, and serve on numerous editorial boards. Professor Harris is editor of the Journal of Educational Psychology. Professor Graham is editor of Exceptional Children and formerly served as editor of Contemporary Educational Psychology. They have co-authored numerous articles and several books, including their new book, Writing Better, published by Brookes. In 2001, Graham and Harris together received the Distinguished Researcher Award for special education research from the AERA; in 2005, they received the Career Research Award from the Council for Exceptional Children. The latter award recognizes an individual or research team whose work has made significant contributions to the body of knowledge about the education of exceptional children and youth leading to improvements in their education. John and Stephanie Ingram are both graduates of Vanderbilt University and active supporters of scholarships, research and Vanderbilt athletics. They are dedicated to the advancement of education at the University, the Currey Ingram Academy, and within the greater Nashville community.
Degrees of Separation

Peabody makes a distinction between the Ed.D. and Ph.D. in education

AFTER MORE THAN A CENTURY AS A STANDARD-BEARER FOR EDUCATION IN AMERICA, IT’S NOT SURPRISING THAT PEABODY COLLEGE HAS MOVED PAST THE SWIRLING DEBATE ABOUT HOW TO EDUCATE THE EDUCATORS TO ESTABLISH A NEW ED.D. PROGRAM FOR PROFESSIONALS ON THE FRONT LINES.

As criticism mounts about the value and distinction between Ph.D. and Ed.D. programs in education, Peabody has acknowledged the problem and taken the next step. “We recognized that students in these programs have different aspirations,” says James W. Guthrie, professor of public policy and education and chair of the Department of Leadership, Policy and Organizations. “The educational requirements for school leaders and researchers just aren’t the same.”

To remedy this, Peabody revamped both programs, focusing the Ed.D. on how to operate institutions and immersing the Ph.D. candidates immediately in research, Guthrie says. Now, the content of the two programs is so different neither group would likely be successful on the other one’s exams, he says.

In the summer of 2004, the first group of 17 students was admitted to the revised Ed.D. program. In 2005, a second cohort of 21 entered the program. The students represent 11 states and a variety of professional positions. Most work in educational associations, government agencies, or colleges and schools, among other jobs.

Aimed at giving mid-career education professionals the tools they need to be successful leaders, the Ed.D. program culminates with a “capstone experience” in which students find solutions to real-world challenges suggested and evaluated by faculty members and national leaders in the field.

“The coursework is, at once, a blend of theory and practice,” explains Guthrie, but it is all ultimately aimed at helping these professionals learn how to lead and operate educational institutions.

And a big part of that, Guthrie explains, is preparing them to navigate the rising waters of performance-based assessment. “This isn’t going to go away,” he says. “America’s schools are going to be judged by pupil performance.” And while colleges and universities haven’t yet felt the same pressure, Guthrie predicts that will come in time.

Students admitted to Peabody’s weekend-based Ed.D. program move through the curriculum as a group over 36 months, with each year divided into summer, fall and spring semesters. They share a core of eight courses over the three-year study period, but are divided into two groups for other classes by area of specialty—either school administration or higher education administration.

The Educational Leadership and Policy specialty prepares students to lead educational organizations, qualify for central office administration and function in other professional roles, such as superintendents, principals, association executives, government officials or private sector consultants.

The Higher Education Leadership and Policy specialty provides practitioners with theoretical and research-based knowledge needed to successfully lead institutions and organizations such as colleges, universities, government agencies, professional associations and consulting companies.

“The program is based on Peabody’s view of pedagogy—that you learn by being immersed,” Guthrie
explains. Students in the program get a “high-tech, high-touch” learning experience using sophisticated computer-assisted instruction, he says. At the same time, they benefit from learning from faculty members who truly are writing the rules in their areas of expertise.

“Nobody has a faculty that equals Peabody’s,” says Guthrie.

But Peabody also is calling upon expertise beyond its Nashville campus to provide a truly meaningful educational challenge for its third-year Ed.D. students. A national advisory board of leading educational practitioners and policymakers will suggest “problems of practice” for the students’ culminating capstone experience.

“It is to that national Ed.D. advisory board that we will look for the capstone challenge,” Guthrie says. The board also will help evaluate the students’ final capstone products—50- to 75-page documents that will address the problems posed using independent research and data analysis as a basis for program recommendations and an implementation strategy. The first cohort will complete this work in 2007.

And while knowledge of the new Ed.D. program at Peabody primarily has traveled by word of mouth, Guthrie is pleased that applications are up and the quality of the candidates, judging by GRE scores and professional qualifications, is superb. He thinks future doctoral students will be drawn to Peabody by the promise of a truly challenging Ed.D. program.

“They hear people saying it’s a tough place and they think, maybe I’ll go there,” says Guthrie.

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**Students Value Research Insight and Relationships**

Mike Dishman refers to the group as the “alpha cohort.” By this he means his 2007 class was the first to enter the new three-year, weekend-based Ed.D. program at Peabody College.

But he also could be referring to the career level of the candidates—“über-professionals” is what he calls them.

“We have all bonded with each other,” says Dishman, an attorney whose Georgia firm specializes in education law. Some faculty members have been caught off guard by this cohort phenomenon, he says, which already has the 17 class members critiquing each other’s work and exchanging job prospects.

Classmate Arthur Fuller Jr. feels the same bond.

“One of the greatest strengths of the doctoral program is the quality and caliber of the educational peers with whom you are engaged in substantive research, dialogue and debate,” says Fuller, a research associate with the Tennessee State Board of Education. “These peers quickly become friends willing to challenge your perspective, while also supporting the validity of your ideas.”

And while Ed.D. programs nationwide have been criticized for being oriented more toward academe than the real world, these students say they’re gaining valuable insight at Peabody into evaluating, understanding and using research in their own work.

“The skills I have acquired related to research synthesis, data analysis and policy already have complemented the skills required to lead educational initiatives focused on data-driven decision-making,” Fuller says.

Dishman believes the program creates “a sharper research consumer.”

“I can separate the wheat from the chaff,” he says simply.

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**At the Core of Choice**

Peabody is home for the first federally-funded center to study school choice

In Fall 2004, Peabody became the site of the first federally funded national center to take a wide-ranging look at school choice, from its impact on student achievement and instructional quality to whether it meets the needs of special education and disabled students and its effects across racial and class lines.

The College won a $10 million grant to fund the Center on School Choice, Competition and Achievement. The grant, a cooperative agreement between the U.S. Department of Education’s Institute of Education Sciences and Vanderbilt, will pay out approxi-
mately $2 million per year for five years.

“This grant is an important and exciting development for Vanderbilt and helps demonstrate why Peabody College is widely regarded as one of the top education schools in the country,” Vanderbilt Chancellor Gordon Gee said. “We competed against a number of top institutions, and the fact that we prevailed in securing funding to help tackle one of our nation’s most challenging issues says volumes about our exceptional faculty.”

Partners in the new center include some of the world’s top universities and research organizations: The Brookings Institution, Brown University, Harvard University’s Program on Education Policy and Governance, the National Bureau of Economic Research, the Northwest Evaluation Association (NWEA), and the Stanford University School of Education.

The current state of research hardly provides definitive answers to a lot of questions about school choice. Will it raise student achievement? Satisfy parents and students? Improve instructional and curricular quality? Segregate students along racial or class lines? Be limited by political and legal constraints? These are just some of the questions the Center will seek to answer.

After an initial year of leadership by Kenneth Wong, professor of public policy and education, the Center is now led by Mark Berends, associate professor of public policy and education.

“With several choice options emerging in school districts around the country, it is important that everyone — parents, researchers, teachers, principals and legislators — learn as much as we can about the effects of school choice on student achievement.”

Camilla Benbow
Patricia and Rodes Hart Dean of Education and Human Development

A multidisciplinary team from the partnered institutions includes economists, sociologists, psychologists, political scientists, curriculum experts, psychometricians, statisticians, public finance analysts and legal scholars.

“With such a diverse research team, we are able to apply the best science available, in both experimental and quasi-experimental designs, to one of the most highly contested issues in American education,” said Berends.

“I am excited about the opportunity for Vanderbilt and Peabody to make a major contribution to the body of research on school choice,” said Camilla Benbow, Patricia and Rodes Hart Dean of Education and Human Development.

Connecting Research and Practice

State and district education officials of Tennessee, Kentucky, West Virginia and Virginia met in March with Vanderbilt University researchers to brainstorm ways to apply the results of academic research to school settings. The goals of the meeting were to learn from state and district leaders their needs for technical assistance tools and innovative programs, to provide these leaders a sense of some of the work going on at Vanderbilt University that might be of interest to them, and to explore how participants at the meeting might work together to connect practice and research more effectively.

Guest speaker Phoebe Cottingham, commissioner of education evaluation and regional assistance at the Institute of Education Sciences (IES), articulated the IES Office of Education Evaluation and Regional Assistance’s commitment to strengthening connections between practice and research. Cottingham announced competitions for regional multi-functional resource centers and regional education laboratories. Vanderbilt acknowledged its intention to create an office — tentatively called the Office of Education Solutions — to act as a mechanism for better connecting the university to the world of practice.

Vanderbilt Chancellor Gordon Gee and Dean Camilla Benbow of Peabody participated in the meeting, and Peabody researchers gave brief presentations of their ongoing work. Many pressing issues were identified during the discussions, including how to take an innovation to scale without compromising fidelity, how to sustain education reform efforts over time, how to identify effective teaching, and how to increase teacher content knowledge. The group also identified the characteristics of a successful partnership in the four-state region, and resolved to continue exploring how best to create it.

The center’s first major project will include randomized field trials on the effects of charter schools on student achievement, teacher recruitment and teaching quality, reading instruction and parental involvement. A second project will focus on the effects of competition on public schools and systems using the nation’s largest student achievement growth database, which is housed at NWEA, as well as accountability data gathered from several states and school districts.

Other studies will look at issues such as how recent immigrants balance their children’s schooling needs with their own ethnic identities and how other nations have designed and implemented choice-based programs.

In addition to research, the center plans to offer a leadership institute for heads of non-traditional public and private schools as well as a leadership development program for district school principals and assistant principals on how to compete in a changing education marketplace that includes school choice.
A new predoctoral program integrating field-based research methods with training in learning science theories and principles is paving the way for the next generation of education researchers. Vanderbilt’s Experimental Education Research Training (ExpERT) aims to create researchers who “ask better questions, use better methods and find better answers to today’s pressing issues in education,” says David Cordray, principal investigator and professor of public policy and psychology.

Funded by the U.S. Department of Education’s Institute of Education Sciences at $5 million over five years, ExpERT uses an interdisciplinary approach to address the nation’s current dearth of experimentally trained doctorate recipients, says Cordray.

Students, who may be enrolled in any of Peabody’s doctoral programs, will work with researchers to gain expertise in field-based research as well as knowledge of cutting-edge theories on learning. ExpERT enrolled its first cohort of 12 students this fall.

“Experimental field tests are hard to do,” Cordray says. “This program will teach people how to do field experiments and tell them what the settings are like—and they also have to know something about how people learn, about what works.”

Over two dozen faculty participate in the program, providing field experiences, teaching courses, and sharing with students an interdisciplinary perspective.

Fostering Educational Leadership

The Vanderbilt Learning Sciences Institute has been awarded a prestigious $1.5 million, three-year grant from The Wallace Foundation to develop a tool to assess the performance of education leaders in the nation’s K-12 public schools.

“Leadership is an essential element of successful schools. The identification and development of effective leadership, however, has been significantly hindered by the lack of sound tools for assessing and monitoring it,” LSI Director and Patricia and Rodes Hart Professor of Educational Leadership and Policy Andy Porter said. “We will use this grant to develop an assessment system for measuring critical leadership skills of individual principals and groups of educators, especially in urban settings, with the goal of improving student achievement.”

“Research tells us that leadership is second only to teaching in school-related factors in its impact on student achievement, especially in schools with the greatest needs,” said M. Christine DeVita, president of The Wallace Foundation. “Nonetheless, we have no reliable means by which we can determine whether school principals and their teams are doing a good job to improve the quality of teaching and learning. With this grant, Vanderbilt will greatly advance the field by providing a valid and reliable approach to assessing and improving leadership effectiveness.”
on common problems of learning, achievement and education. This departure from traditional disciplinary boundaries makes ExpERT a perfect fit for Vanderbilt’s Learning Sciences Institute, where it is based.

“Bridging the technical side of field experiments and how people learn is a central element of the LSI,” Cordray explains. “One major goal for this training program is to reinforce the mission of the LSI by contributing to the institutionalization of interdisciplinary research” at Vanderbilt. ExpERT’s collaborative approach will make it possible for faculty and students from different disciplines to work together on common issues.

That’s where the curriculum comes in. In addition to sequenced courses in statistics, measurement and design as well as educational practices, context and learning, students participate in randomized field trials, summer workshops, monthly lectures, teaching experiences, internships and conferences. A recent lecture, “Challenges and Prospects for a Science of Education,” featured Russ Whitehurst, director of the Institute of Education Sciences.

“What’s different about the coursework,” Cordray says, “is that it’s sequenced and staged so that you go from the more generic to the more complicated. Equally important are research experiences with faculty who are doing experiments in school settings.”

“Doing field experiments gets into a broader reason for doing this,” Cordray adds. “The program is intended to create an infrastructure so faculty can do a better job of training students. The big picture is that by creating a program where students are well trained in asking and answering complicated questions about education—and testing answers based on experimental methods—we provide a way of enhancing the research capacity in the university.”

A second grant from IES has established a post-doctoral component for the ExpERT program. Funded for $615,000 over four years, ExpERT Plus expands upon the original doctoral program’s interdisciplinary model for field-based education.

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**Education Foundation Establishes Professional Development Fund**

In October 2004, Peabody received a $1,000,000 endowed gift from the Nashville Public Education Foundation to create a permanent collaborative relationship between Peabody, Vanderbilt and the Metropolitan Nashville Public Schools to help meet the professional development needs of metro teachers and principals.

Annette S. Eskind, chairman of the foundation, announced the gift. “The gift from the foundation reflects our belief that ongoing, researched-based professional development for teachers and principals in Metro Schools is essential to providing quality education for children,” said Mrs. Eskind.

“With Annette Eskind and the Nashville Public Education Foundation as partners, in recent years we have established programs like the Principals Leadership Academy of Nashville that build strong school leaders who focus on student achievement,” said Camilla Benbow, Patricia and Rodes Hart Dean of Education and Human Development. “This generous gift from the foundation will enable us to provide even more opportunities for Metro teachers and principals to excel.”
Professors Rich Lehrer and Leona Schauble think that contemporary research and practice tend to underestimate the capabilities of young students in mathematics and science. “We believe that students are capable of much more rigorous and interesting learning, but it takes careful thought and research, plus sustained hard work and persistence with the politics of schooling to make it happen,” says Schauble, professor of education and chair of the Department of Teaching and Learning.

“Ideas in Action • Fall 2005

Professors Rich Lehrer and Leona Schauble think that contemporary research and practice tend to underestimate the capabilities of young students in mathematics and science. “We believe that students are capable of much more rigorous and interesting learning, but it takes careful thought and research, plus sustained hard work and persistence with the politics of schooling to make it happen,” says Schauble, professor of education and chair of the Department of Teaching and Learning.

Working intensively with classroom teachers, the two researchers have developed alternative approaches that make learning in math and science not only more rigorous but more exciting. Together, they have worked with teachers in school districts in Verona, Wisconsin, and Nashville, Tennessee, to implement their ideas and examine their efficacy.

In math, Lehrer and Schauble help teachers in the elementary grades construct the kind of resources that can be used to develop models of the world. “These include the usual forms of arithmetic, but also child-appropriate forms of geometry, data modeling, uncertainty, and early algebra,” says Lehrer, professor of science education.

Often, little is known about effective ways of introducing these mathematical ideas to young children, so it is necessary to invent, test, and revise lesson sequences that early grades or novice children can easily participate in.

For example, second-graders investigated all the possible unfoldings of a cube and generated algorithms for ensuring that they had found them all. Once that challenge was met, a girl in the class proposed partitioning each face of the cube into two right triangles. “How many unfoldings,” she asked, “would we have now?”

“In science, content is always front and center,” says Lehrer. “Science education is designed to be cumulative, so that important ideas learned at one grade are lifted into the next and given enhanced mathematical and scientific power. That’s why we emphasize modeling as the heart of science. Constructing and revising models of the world, including mathematical models, is a powerful way of describing and testing scientific ideas. Important elements of modeling, such as drawing, diagramming, mapping, representing, and data modeling, are within reach even of young students.”

“Constructing and revising models of the world, including mathematical models, is a powerful way of describing and testing scientific ideas. Important elements of modeling, such as drawing, diagramming, mapping, representing, and data modeling, are within reach even of young students.”

Rich Lehrer
Professor of Science Education
First graders participating in this approach modeled the growth of flowering bulbs by measuring and comparing differences in lengths at successive days of measure. By the third grade, students were calculating these differences as rates on graphs made of piece-wise, linear curves. By the fifth grade, students were comparing populations of plants grown under different conditions, constructing distributions of sample means, and using invented statistics to describe the center and spread of the populations to decide whether the difference between the medians of the two populations might be due to differences in the amount of fertilizer or light they received or, alternatively, “mere chance.”

The results of these collaborations with teachers have been impressive. “Because the forms of mathematics we emphasize are not typically taught in elementary grades,” says Lehrer, “we designed instruments to assess student achievement. The achievement items assessed five related strands of mathematics: number, geometry, measure, early algebra, and data modeling and statistics.” The assessments designed also incorporated benchmarks from the National Assessment of Educational Progress (NAEP). “Performance of participating students compared very favorably to national levels of performance for all NAEP items,” says Lehrer.

In Verona, the results showed students achieved substantial gains in mathematical knowledge every year and were consistent at all levels of achievement. Grades 1 and 2 performed very well on items that students in Grades 3 and 4 in the national survey found difficult. Grades 3-5 outperformed Grades 8-12. In science, elementary students demonstrated understanding comparable with that of middle and high school students. In the Nashville site, students have demonstrated substantial progress from pre- to post-test in mathematical achievement at all grade levels (5-8).

“The core of our approach,” says Schauble, “is working together with teachers to better understand the development of students’ thinking about mathematics and science. This is a very powerful form of professional development. Tasks and tools are important, but teachers are the key. Teachers who understand what is mathematically or scientifically fruitful in students’ thinking and talk are in a much better position to provide the forms of assistance that help students take the next steps.”

Pre-K Teachers Gather for Summer Institute

One hundred pre-kindergarten teachers from across Tennessee came to Peabody in July for a weeklong institute to learn the latest techniques to help children benefit as much as possible from pre-kindergarten. The Tennessee Pre-K Summer Institute was the first of its kind in Tennessee and was funded by the Tennessee Department of Education.

The institute focused on four different areas: observation and assessment, early literacy, appropriate classroom practices, and guiding children’s social and emotional development. The sessions were led by national-level researchers, including a number of Peabody faculty. Tisha Bennett, institute co-director and assistant clinical professor of early childhood education, said, “The trainers gave teachers tools to help meet the Tennessee Early Learning Standards.”

The institute’s other co-director, Dale Farran, professor of education and psychology, commented, “Groups of teachers were immersed in the equivalent of a graduate course in one area. We hope the institute will continue in future years, and that teachers will come back and participate in one of the different areas.”
An innovative program for special education students started 10 years ago at the Vanderbilt Kennedy Center for Research on Human Development and Nashville Metro Public Schools has now gone nationwide through the publication of a new book, Success for All Students: Promoting Inclusion in Secondary Schools through Peer Buddy Programs.

Carolyn Hughes, professor of special education and human and organizational development and a Kennedy Center investigator, along with a former graduate student, Erik Carter, developed the Peer Buddy program with their colleagues from Vanderbilt and Metro Schools and authored the book. Hughes and Carter were spurred to write the book by the hundreds of e-mails they received asking for more information about the program.

“We were getting requests all the time from across the nation for more information, and we realized, ‘it has to be a book,’” Hughes said.

In the Peer Buddy program, general education high school students support, mentor and befriend special education students. These students, particularly those with more severe disabilities, are often isolated in separate classrooms and are not integrated with the social, academic or athletic life of the school. Their general education peer buddies provide that often missing link with the rest of the school.

The Peer Buddy program started in one Metro high school and eventually spread to all comprehensive high schools in the district. More than 1,000 special education students have participated in the program, with some years seeing every special education student in the district having access to a buddy.

To help the general education students find time to participate in the program, Hughes, Carter and colleagues worked to have a Peer Buddy elective class established.

“We worked with the school board, the principals and the administration to establish Peer Buddies as a for-credit class,” Hughes said. “That way, the students could devote at least one class period per day to interacting with the students from the special education classes.”

**The Write Stuff**

In addition to publishing books and scholarly articles, many Peabody faculty members serve in editorial roles with important academic journals:

- **Cognition & Emotion**
  - Craig Smith, Associate Professor of Psychology, editor

- **Cognition and Instruction**
  - Rich Lehrer, Professor of Science Education, editor

- **Behavioral Disorders**
  - Joseph Wehby, Associate Professor of Special Education, co-editor

- **Education Evaluation and Policy Analysis**
  - Ellen Goldring, Professor of Education Policy and Leadership, co-editor

- **Exceptional Children**
  - Steven Graham, Currey Ingram Professor of Special Education, editor

- **International Journal of Educational Advancement**
  - Timothy Caboni, Lecturer in Higher Education, editor

- **Journal of Educational Psychology**
  - Karen Harris, Currey Ingram Professor of Special Education, editor

- **Peabody Journal of Education**
  - James Guthrie, Professor of Public Policy and Education, editor

- **Perception & Psychophysics**
  - Thomas Carr, Frank W. Mayborn Professor of Cognitive Studies, editor
In addition to spending time in their buddies’ classes, the pairs also eat together in the lunchroom and participate in activities outside of school together—in short, they become friends.

“The students with severe disabilities often have limited social skills and in some cases, it’s just because they haven’t had the practice. So this is an opportunity to come out and be with people who do have social skills,” Hughes said.

Hughes said general education students believe they benefit from the program just as much as the special education students.

“It really touches your heart because of the things the general education students say. They realize the special education students are really no different from them,” she said. “They say, ‘we are really the same, we have the same fears, the same dreams.’”

Hughes expanded the program this year to include Vanderbilt undergraduates, who are serving as mentors to general education high school students in high poverty schools as part of a service learning class.

The new book contains detailed instructions, checklists and worksheets that individual teachers and schools can use to kick off the Peer Buddies program at their school.

Peabody Hosts First Public Meeting on Proposed Changes to Disability Education

New rules designed to bring the federal Individuals with Disabilities Education Act in line with President Bush’s No Child Left Behind education initiative were the topic on June 17, when Peabody hosted the first in a national series of federally-sponsored meetings to receive public comment.

The Individuals with Disabilities Education Act provides education funding to help states and local communities provide education for about six million special education students.

“These meetings are important to determine whether these regulations are acceptable to the broad constituencies affected by special education,” said Dan Reschly, chair of the Department of Special Education. “The changes would place greater emphasis on progress in the general education curriculum.”

More than 100 members of the public, from parents of children with disabilities to representatives from a number of organizations, offered comment over five hours. Federal officials on hand to receive this input included John Hager, assistant secretary of the Office of Special Education and Rehabilitative Services, and Troy Justesen, Ed.D.’01, deputy assistant secretary.