As a public research university, Maryland should gauge a measure of its success by how enriched the surrounding community is by its presence. How are faculty members sharing what they are discovering? What applicable research is being offered to teachers?

In the area of kindergarten through 12th grade education, the university answers these questions in a myriad of ways. While preparing new teachers to take on classroom challenges, it also works with those already in the field by providing valuable research data to improve teaching and learning, to structure inclusive and engaging curricula and to develop tools for assessment.

“We’re continually looking for synergies … and developing new knowledge that fulfills the university’s research mission,” says Edna Szymanski, dean of the College of Education. “The real challenge is finding the right balance between the expertise of the faculty and the needs of the community.”

Story By Monette A. Bailey  Illustrations By Joseph Daniel Fiedler
Stimulate Teachers’ Creativity

The community needs well-trained teachers in all subject areas, says Farvardin, dean of the C. Clark School of Engineering, who would add “passion” to what is required of teachers, especially for those in the sciences.

“It’s not good enough to tell people how exciting these fields are ... We need to show them the role engineering plays in our everyday life,” he says.

This summer, in conjunction with the College of Education, the School of Engineering will launch a program, funded by the GE Foundation, designed to generate enthusiasm about careers in engineering and technology. Teachers Integrating Mathematics and Engineering (TIME) brings a variety of programs such as ongoing teacher education and a two-week summer program to middle and high school teachers and guidance counselors from M aryland, starting with the Prince George’s County.

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dering and technology-related fields,” says Farvardin, with the goal of inspiring young people to enter these fields.

Patricia Campbell, associate professor with the College of Education’s Department of Curriculum and Instruction, echoes Farvardin’s emphasis on teachers’ importance. “I believe that you’re not going to change what students learn unless you change what teachers are teaching.” To prove this point, she and her research team set about helping math teachers in Baltimore City elementary schools revamp the entire mathematics curriculum. “It became a systemic project that worked with curriculum, instruction, professional development, assessment and policymakers.”

The six-year Mathematics Applications and Reasoning Skills (MARS) project empowered teachers whose students responded with increased achievement. M aridian scores on stan-

dardized tests jumped 16 to 23 percentage points after three years, even as about two-thirds of the elementary teachers attended the professional development sessions, says Campbell. “We learned that a teacher affects a student’s mathematics achievement for at least two years.”

Campbell’s team also began to understand more about how learning occurs, which can help teachers be more effective in planning engaging instruction.

John Guthrie, director of the University of M aryland Literacy Research Center, adds that learning opportunities for students who struggle with reading comprehension are key:

Foster a Nurturing Environment

Melanie Killen, a professor with the college’s Department of Human Development, looks at how school environments foster or inhibit children’s perceptions of inclusion or exclusion, specifically around issues of race and ethnicity. How can a student be expected to be excited about, even interested in, learning when he or she is combating feelings of isolation? Teachers, she confirmed, play a pivotal role in the ways students foster tolerance and mutual respect.

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