

Purdue News

Education strengthened when treated as a seamless whole

(Purdue President Martin C. Jischke gave this address Tuesday, Aug. 13, during the Pathways to College Policy Forum).

Good afternoon. Thank you for the opportunity to speak today.

My special thanks to the Indiana Education Roundtable and Pathways to College Network for hosting this forum. Meetings such as this are essential in strengthening the linkage between pre-kindergarten through college education.

Meetings such as this are vital as we work to improve the academic success of our students and take education in Indiana to the next level of excellence.

As Indiana's land-grant university, Purdue is committed to working with this state, its schools and teachers to strengthen education.

This is about the future of Indiana's most valuable resource – our young people. This is about the future of our state.

Several years ago I served on the Kellogg Commission on the Future of State and Land Grant Universities. Among the conclusions of this commission was that those of us in higher education must build stronger partnerships with public schools to increase the number of students prepared for college.

At Purdue, we are working to build these bridges. We need well-prepared students with strong skills – especially in math and science. To accomplish this, those of us in higher education must take an active role working with K-12.

At Purdue, our efforts include teacher preparation; outreach programs; and promotion of education as a single, seamless system – from the earliest days of childhood, through college, into lifelong learning.

The most significant impact higher education can have on K-12 comes through teacher preparation. Purdue is working hard to graduate teachers who will be leaders and agents of positive change.

Our School of Education has initiated a number of programs to improve teaching and impact learning in Indiana.

We are preparing teacher candidates to make maximum use of technology as 21st century advancements open the potential to transform education. We are giving teacher candidates intensive in-classroom field experience, beginning in their freshman and sophomore years and continuing

through graduation.

Using computer technology, Purdue students in West Lafayette are interacting with bilingual students in East Chicago, giving our teacher candidates a diverse learning experience.

Our students are learning new, nationally recognized methods to teach complex mathematical and scientific concepts.

The preparation of top teachers not only impacts K-12, it impacts higher education. Universities educate K-12 teachers who, in turn, are the ones who must prepare students for admission to our institutions.

Higher education and K-12 are intertwined. Our destinies are linked.

A major component of our teacher development comes through outreach programs. Our School of Science Outreach Program is funded at \$875,000 a year.

Since 1990, the School of Science Outreach Program has invested \$8.3 million in K-12 programs across the state. This single program at Purdue has impacted 450,000 K-12 students and about 2,000 teachers.

A great deal of our efforts are directed toward K-12 teacher professional development.

We are doing workshops for teachers on Indiana standards-based education. We are also doing workshops on inquiry-based science, an effort that challenges students to raise questions and initiate their own investigations.

Purdue responds to a wide range of calls for help, such as how to design a new science laboratory. The Indiana Association of Chemistry Teachers, the Indiana Association of Biology Teachers and the Indiana Earth Sciences Teacher Association all have their homes in our School of Science Outreach Program.

Purdue's efforts are setting the pace for science and math outreach at universities across the nation.

More examples of what we are doing in science and math include:

- Chemobile, which takes more than half a million dollars' worth of research instruments to middle and high school classrooms.
- Focus on Science, an elementary school program providing educators with professional development and students with learning that sparks their interests.
- Physics on the Road, which goes to schools demonstrating scientific principles in fun, exciting ways.

We also have outreach programs in our School of Education.

We collaborate and work closely with K-12 schools in the training of new teachers and in professional development for veteran educators. For example, we have a science and literacy professional

development program for elementary teachers.

Our Reading Recovery for young students is a very successful early intervention program to help children become excellent readers and excellent learners.

We are promoting service learning among our students at Purdue.

This fall, upper-level Spanish language and freshman engineering students will be tutoring in Lafayette schools. And we bring gifted K-12 students onto the Purdue campus throughout the year for special programs to challenge and encourage their talents.

While all of this has great impact, higher education outreach efforts must go even further.

Many Indiana K-12 schools are making tremendous progress. But there are others where students are lagging behind.

One of the greatest risks facing this state and nation is the possibility that America will become a society divided along educational lines with a large sector of our population trapped by a lack of learning and a resulting lack of opportunity.

Purdue has outreach efforts focused on minorities as well as women.

We have recruitment and retention programs for women and minorities in disciplines that include science, technology, engineering and management.

For example, the Business Opportunity Program supports and funds minority education in our School of Management. This program was one of the first of its kind in the nation. It is also one of the best.

Science Bound is a new partnership between Purdue and Indianapolis Public Schools.

Every year, 60 seventh-grade students are chosen to enter this five-year program, designed to attract and expose them to careers in engineering, science, math and technology. Special emphasis is placed on attracting underrepresented students.

Components of the program include field trips, demonstrations, after-school and weekend efforts, and summer camps.

Each student is assigned a mentor. Regular meetings are held to ensure student success.

After completing the program, students are offered full scholarships to Purdue, studying math, science, engineering or technology.

In all of this Purdue is promoting education as a single, seamless system.

People in Indiana and throughout the United States have traditionally thought of education as two separate efforts. One is kindergarten, or pre-kindergarten, through 12th grade. The other is higher education.

This approach must change.

Education is a single, seamless whole. It begins in a child's life well before kindergarten, it continues through college and extends into lifelong learning.

Pre-kindergarten, K-12, higher education and lifelong learning must be considered together.

This is the way we should approach funding for education. This is the way we should approach programs to promote and improve education, student achievement and academic success.

The only way we will advance to the next level in education is by working together.

These are examples of what Purdue is doing today.

We are proud of what we have accomplished. But we are not satisfied. We want to do more.

We have developed strategic plans for the next five years.

Among our goals is increasing engagement with K-12 schools. We are committing our talent, facilities and resources toward this effort.

We will offer more programs to excite students, especially in math, science, and reading. We will offer more programs for professional development of teachers. We also need more work in recruiting top people into teaching, especially in math and science. And we need to work hard at retaining Indiana's teachers in a profession where the best and brightest are sometimes lured away.

The vision of our strategic plan is preeminence. To us – this means more than working for preeminence at Purdue. It means working for preeminence in education throughout the state of Indiana.

Thank you.