UNI’s Important Role in Meeting Pre-K through 12 Education Challenges
Priorities

• Move undergraduate education from good to great

• Ensure leadership in pre-K through 12 issues

• Increase UNI’s efforts to assist in state economic development
Challenges/Opportunities in Pre-K through 12 Education

- Shortage of qualified administrators
- Shortage of teachers in selected areas
- Student proficiency level
- Early childhood education
State/National Demand

- Three industry sectors of Iowa’s ‘New Economy’*
  - Bioscience
  - Advanced manufacturing
  - Information solutions

- Of the 20 fastest-growing occupations of the 21st century, 15 require substantial mathematics and science preparation

* Iowa Department of Economic Development
Proficiency

- International comparisons are not encouraging
  - 17-year-olds scored well below average (when compared to 41 other countries and 500,000 students)*

- National Performance Standards are not encouraging
  - Most American students perform below par on national science and math assessments
  - Only one-third of 4th and 8th graders scored at or above the proficiency level in math**
  - In science, nearly one-half of the high school seniors did not reach the basic level of competence

* The Third International Mathematics and Science Study (TIMSS)
** Recent National Assessment of Educational Progress test
State/National Demand

- Iowa is 173 teachers short in science*
- Iowa is 121 teachers short in mathematics*
- 200,000 math and science teachers are expected to retire within a decade**

* Task Force on Teacher Shortage
** National projection
UNI’s Leadership Position

• Teacher Education - Undergraduate and Graduate
  ▪ Largest producer of math and science teachers in Iowa
  ▪ 29 tenure/tenure-track faculty in math/science education
  ▪ Largest math and science education graduate program in the state

• Research
  ▪ Teacher knowledge tests in math education to help identify specific content that helps teachers improve achievement
  ▪ Science education studying effects of inquiry-style teaching on future elementary teachers' practices and attitudes
UNI’s Leadership Position

• Professional Development for K-12 Teachers
  ▪ Variety of workshops, summer programs and projects—Every Student Counts, Every Learner Inquires

• Curriculum Development
  ▪ K-12 mathematics textbooks
  ▪ Leading special projects in science such as PRISMS, BIOMES

• Leadership - State, Regional, National
  ▪ Faculty who authored national standards and leading textbooks
  ▪ Leadership positions in Iowa Department of Education initiatives, National Research Council and many more
Overview of Regents’ Initiative

• Background

• Goals
  - Improve performance of pre-K through 12 students in math/science education
  - Increase the number and quality of math/science teachers
  - Promote statewide collaboration and coordination

• Status
Q & A