

PTC's Pro/DESKTOP: A Tool for Science and Math Teachers

John Stuart
Steve Smith
State Educators' Symposium
on Technological Literacy

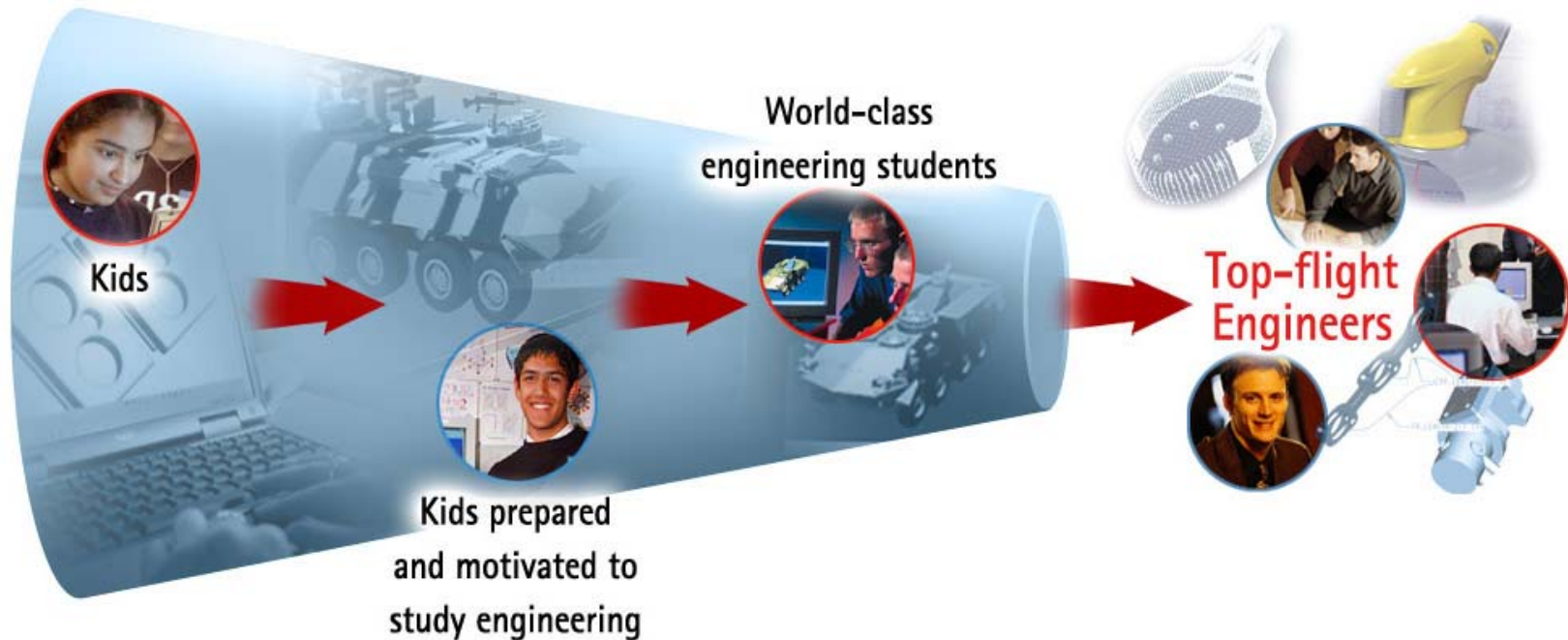


“The relationship between science and technology is so close that any presentation of science without developing an understanding of technology would portray an inaccurate picture of science.”

National Science Education Standards

National Academy of Science

Our Mission: Help Educators Prepare young People to Live and Work in a Technological World



“Student engagement is the most important issue in education today. Because PTC’s program is fun and easy to use, it helps our kids learn science, math, and engineering.”

-- David Driscoll, Massachusetts Education Commissioner

An Education Program For Every Level

Design & Technology in Schools Program

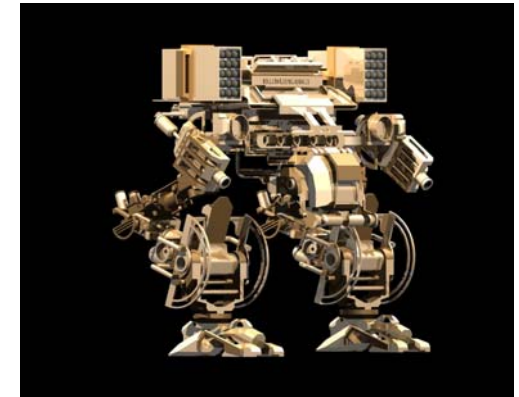
- ⦿ For middle schools and high schools
- ⦿ Pro/DESKTOP software donations, training, materials

Schools Plus Program

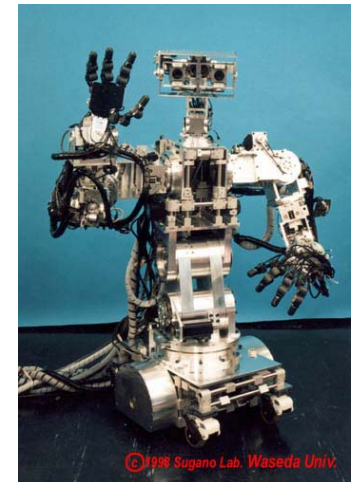
- ⦿ For U.S. high schools with advanced courses
- ⦿ Pro/ENGINEER at steeply discounted \$2,000 for 2 years
- ⦿ Training, tech support

University Plus

- ⦿ For universities worldwide
- ⦿ Pro/ENGINEER Wildfire + at steeply discounted \$2,500 / year
- ⦿ Training, tech support



Olewein (Ohio) High School



Waseda University, Japan

Global Impact

- *Business Week* in December 2003 recognized PTC's educational software donations by naming the company the 3rd-most generous in-kind giver among US corporations
- The UK and Thailand are teaching every child to use Pro/DESKTOP software as part of nationwide technology education initiatives
- Since 1999, 11,000 teachers worldwide have been trained to teach with Pro/DESKTOP (3,000 in U.S.)
- PTC, Georgia Tech and John Deere using ProjectLink to revolutionize mechanical engineering education



What is Pro/DESKTOP?



How Do Teachers Use Pro/DESKTOP?

Most commonly used to teach engineering design process, drafting

- ⦿ Tech Ed
- ⦿ Pre-Engineering
- ⦿ Robotics
- ⦿ Design & Technology

Science – A clear trend, especially integrating with physics

Math – Just beginning to be used to reinforce concepts

Pro/DESKTOP: A tool for teaching the engineering design process

National Science Education Standards

Standard E – Science and Technology (1 of 6)

Grades 5-8 and grades 9-12

Standards for Technological Literacy

Standards 8 and 9, Design and Engineering Design* (2 of 14)

Grades 6-8 and grades 9-12

State Curriculum frameworks

I.e. MA Science & Technology/Engineering

Strands 3&4 – Physical science and
Tech/Engineering (2 of 4)

Grades 6-8 and grades 9-10

Pro/DESKTOP Helps At-Risk Students Nail Math Concepts

Shawsheen Valley Regional Technical High School - Billerica, MA

During a special 2002 summer school program, 70 at-risk students mastered math concepts by solving problems with Pro/DESKTOP and other technologies.



88 % showed overall improvement

62 % improved one grade level or better

13 % improved 5 grade levels or better

29 concepts included decimals, fractions, writing numerical expressions, probability, area

Newburyport High School: Pointing Toward the Future

2002: Robotics course integrates Pro/DESKTOP to teach 3D design/drafting

2003: Robotics uses Pro/DESKTOP to teach engineering design process

2003: Physics uses Pro/DESKTOP to teach motion and forces

2004: Administration approves Integrated Pre-Engineering course to be team-taught by math, physics and tech ed teachers

