State of the School

Gateway to Techology (GTT) Presentation

May 2010

Two Initiatives

- Upgrade the School Computer Hardware
- Support the transition to STEM based curriculum
  - Science, Technology, Engineering and Math
  - Grades 6-8

School Computers Upgrade

- Upgrade Current Server
- Classroom Lab Workstations upgrade

Server Upgrade

- Can’t keep up with current processes
- Glitches in Network Typing Program
- Storage capacities need to be doubled
- Most recent version of Symantec Anti-virus needs to use W2008 Server

Classroom Lab Workstations

- Technology Curriculum Multi-media programs aren't fully functional
  - Due to limited video capabilities
  - KidPix – Grades 4K-2nd, Adobe Photoshop Elements - 3rd through 8th, PhotoStory 3 for Windows - 6th through 8th
- Rotate computers to fulfill classroom needs
  - 5K requested 5 additional machines to each classroom
    - Center for their online reading program.
  - Classroom SMARTboard computers
- Add 2 more workstations to Classroom Lab
  - Accommodate Growing Class Sizes

School Computers Upgrade Cost

- Server
  - Hardware - $1000
  - Software - $1200
- Classroom Lab Workstation Upgrade
  - 26 Dell machines with 19” Flat Screens
  - $12,000 - $13,000
- Funded through annual Technology Fee and other sources

STEM-based Curriculum

- China graduates 52.1% of their college degrees in a STEM field
- Japan graduates 64%
- South Korea – 46%
- United States – 16.8%

"But STEM education is about much more than job training; it's about preparing people to think and function in an increasingly technical society. … It's a basic competency that underpins a range of occupations--some of them not even conceived yet--in a range of industries.

By Rob Preston Vice President, InformationWeek

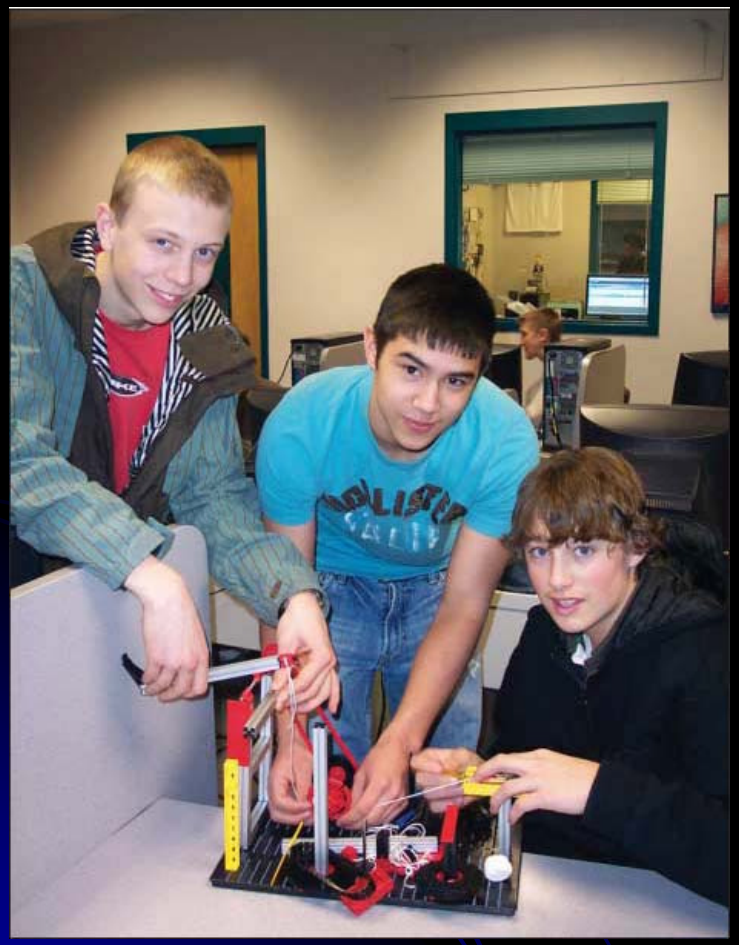
(From the July 20, 2009 issue)

Research-based Evidence

The students involved in STEM curriculum:

- Achieved significantly higher scores in reading, mathematics and science
- More likely to:
- Complete at least four years of mathematics and at least four years of science courses during high school;
- Experience engaging instructional practices in mathematics and science courses

What Is Gateway To Technology?



- STEM Curriculum
- Broken into 2 segments
- Engineering & BioMedical
- Focus on
  - Teamwork
  - Applications
  - 4 steps to every student project
    - Design, Construct, Test and Present

Educational Standards

- Every State has Curriculum standards
  - Currently there is a push to have national standards
  - Bring all state standards to the same level
- St. Alphonsus will follow the Archdiocesan Standards
  - Modified from the State Standards
  - http://dpi.wi.gov/standards/

Curriculum

- The choice becomes how to teach the Standards – Curriculum
- Activities and lessons at each grade level
- Instructional materials
- Various instructional techniques
  - Traditionally – textbook, worksheets, quizzes, tests
  - Project-based learning is a new direction
    - Same curriculum – taught with hands on learning strategies

Science and Technology Standards

- GTT incorporates multiple state curriculum standards in modules
- First 4 Engineering Modules
  - Included all of the Physical Science standards for 6th-8th grade
- Biomedical Modules
  - Include all of the Life Science standards for 6th-8th grade
- Technology standards are included across the board
- When the core 8 GTT modules are implemented – Replaces current Science and Technology Teaching Strategies for Grades 6-8

Modules Overview

- **Engineering**
  - **Four core Modules – Science of Technology, Design & Modeling, Magic of Electrons, Automation & Robotics**
  - **Energy & Environment, Flight & Space**
- **BioMedical**
  - **Four additional core modules**
  - **HS Curriculum released Fall 2009**
  - **MS Curriculum in development**

Anticipated Timeline

- 2010-2011
  - Science of Technology – Design & Modeling
  - 7th and 8th Grades
- 2013-2014
  - Four Engineering Modules and Four BioMedical Modules
  - 6th, 7th, and 8th Grades
- Graduating class of 2014 will be the 1st class to participate in all of the modules

Item	Initial Cost	Consumables
Teacher Laptops	$4,200	
Science of Technology	$3,175	$1,700
Design & Modeling	$6,775	$500
Magic of Electrons	$4,500	$1,600
Automation & Robotics	$11,000	$0
BioMedical Modules	?	?
Inventor Software	$1,000	$1,000
Teacher Training	$6,300	$6,300

Current Funding

Revenue	
Title Funds	$6300
Donations	$5490
Fundraising	$3169
Grants	$1250
Tech Funds	(as Needed)
Total	**$16,209**

Grants Being Explored

- Nine Foundations Contacted with Initial Inquiry Letters
- Six Grant Proposals in Progress
- Kern Family Foundation Grant in Progress

STEM Curriculum Potentials

- Stronger Connections between hands-on projects and math and science
- Development of Geometry, Problem-Solving, Teamwork, and Project Management Skills
- Students will think seriously about pursuing these subjects in their futures

Questions?