Agenda

• Welcome and Introductions
• Agenda Overview
• Know/Need to Know Activity
• Overview of New Tech Network
• Overview of Tech Valley High School
• Project Overviews
• Teacher/Student Panel
• Likes/Wonders Activity
• Wrap-up
OUR WHY

To ensure all students graduate with the **skills**, knowledge, and attributes they will need to thrive in post-secondary education, careers, and civic life.
At its core, NTN builds the human and organizational capacity in school systems to reimagine teaching and learning.
OUR WHAT

We develop innovative learning environments built around a culture that empowers, teaching that engages, and technology that enables.
PBL is NOT the Same as "Doing Projects"

Traditional Unit With Project:
- Lecture
- Activity
- Quiz
- Lecture
- Activity
- Quiz
- Review
- Exam

Project-Based Learning Unit:
- Project Launch
  - Entry Event and Rubric Create “Need to Knows” and Next Steps
- Activities
  - Workshops
  - Lectures
  - Homework
  - Research
  - Labs
- Benchmark
  - Simulations
  - Discussions
  - Modeling
  - Reading
  - Interviews
  - Quiz
- Benchmark
  - Creating
  - Feedback
  - Building
  - Writing
  - Preparing
  - Drafts
- Reflection on Learning

5/13/2014
What “College Ready” Means to NTN

<table>
<thead>
<tr>
<th>Awareness</th>
<th>Each student understands post-secondary options and sees the importance of college and its role in career options and other life choices</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Eligible</td>
<td>Each student completes requirements necessary for college entrance</td>
</tr>
<tr>
<td>+ Prepared</td>
<td>The student graduates from high school with the skills and dispositions necessary for further education without remediation</td>
</tr>
</tbody>
</table>

= College Ready

Our thanks to Duane Baker at the BERC Group for this formulation.
New Tech Network
School-Wide Learning Outcomes

Five research-based indicators of post-secondary success. These are to be assessed and scaffolded throughout a project based learning unit.

College Ready Assessment and Literacy Task

**College Ready Tasks** are disciplinary tasks within a project that elicit all of the rubric indicators on the *Knowledge and Written Communication* rubrics. **Literacy Tasks** may elicit specific, targeted, but not necessarily all of the *Knowledge and Thinking* and *Written Communication* indicators.
The NTN Profile of a Graduate...

THINK critically

COMMUNICATE effectively

WORK collaboratively

AGENCY how to learn...

...through mastery of rigorous academic content
Reimagining Education

- Innovate public education and serve as model
- Develop dynamic partnerships
  - Relevant, authentic, rigorous
- Create culture of doers
- Inspire students in STEM practices
- Create learner-centered environment
- Integrate curriculum
GLOBAL COMPETITION: requires a different kind of education.

In order for America to compete globally and secure its future, US workers must develop a high level of creativity and innovation that requires a new approach to education.

_Tough Choices or Tough Times_
National Commission on Education and the Economy
“New” skills are:

• Critical thinking & Problem solving
• Collaboration
• Agility & Adaptability
• Initiative & Entrepreneurship
• Effective communication (oral & written)
• Accessing & analyzing information
• Curiosity & Imagination
# Ready for College, Career and Civic Life

<table>
<thead>
<tr>
<th><strong>Skills</strong></th>
<th><strong>Knowledge</strong></th>
<th><strong>Attributes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration</td>
<td>History</td>
<td>Persistence</td>
</tr>
<tr>
<td>Critical thinking</td>
<td>Biology</td>
<td>Resilience</td>
</tr>
<tr>
<td>Communication</td>
<td>Chemistry</td>
<td>Patience</td>
</tr>
<tr>
<td>Creativity</td>
<td>Physics</td>
<td>Self-worth</td>
</tr>
<tr>
<td>Problem solving</td>
<td>Math</td>
<td>Confidence</td>
</tr>
<tr>
<td>Technology</td>
<td>Literacy</td>
<td>Adaptability</td>
</tr>
<tr>
<td>Literacy</td>
<td>Economics</td>
<td>Curiosity</td>
</tr>
<tr>
<td>Numeracy</td>
<td>Government</td>
<td>Flexibility</td>
</tr>
<tr>
<td>Researching</td>
<td>Culture</td>
<td>Risk taking</td>
</tr>
<tr>
<td>Time management</td>
<td>Current events</td>
<td>Responsibility</td>
</tr>
</tbody>
</table>
Tech Valley High School

• Regional public high school located at SUNY College of Nanoscale Science and Engineering
• Small school by design
• 46 school districts, seven counties
• Diverse student body
• Member of national network of New Tech schools
Mission

Tech Valley High School provides a unique and innovative student-centered educational opportunity, engages students in current emerging technologies, and supports the growth and economy of the region.
Learner-centered Environment

- Take risks in a cutting-edge, innovative lab environment
- Develop personal responsibility and ownership
- Build communication skills and self-confidence
- Present and defend work
- Give and receive feedback
Project-based Learning

- Engaged through authentic real-world challenges
- Enabled by technology
- Empowered by professional collaborative culture
  - Trust
  - Respect
  - Responsibility
The Engineering Design Process

1. ASK
What are the problems?
What are the constraints?

2. IMAGINE
Brainstorm ideas
Choose the best one

3. DESIGN
Draw a diagram
Gather needed materials

4. CREATE
Follow the plan
Test it out!

5. REFLECT
Discuss what can work better
Repeat steps 1 to 5 to make changes
Welcome to the Pixie Project!

Please sit with you new teams.

Project: Entry Event

- Know Need to Know Process - Entry Document, Rubric
- Create team folder named (Pixie Team X, Name, Name...) and share/notify teachers (include all team docs in folder)
- Write team contract
- Write team pacing chart - divide project into benchmarks, assign dates for each benchmark

Possible workshop - as requested in know/need to know

Individual Time

- Work on Cornell Notes. Thorough answers are expected. Address all parts of the question. Homeostasis quiz tomorrow based on first question in Cornell Notes.
- Continue pull outs for oral communication exam and stem cell project assessment

Dismissal at 11:30 AM this morning due to 1-hour delay schedule.
Knowing & Thinking ELA 30% (1 activity | 20 pts possible) 84%

Collaboration 10% (5 activities | 45 pts possible) 83%

Technology & Information 10% (1 activity | 20 pts possible) 82%

Knowing & Thinking History 30% (5 activities | 70 pts possible) 78%

Agency & Self Direction 10% (6 activities | 30 pts possible) 78%

Communication 10% (2 activities | 30 pts possible) 77%
Project Example: How can we design and build a low cost microscope?
Project Example: How can we use the design process to translate music into a visual form?
Tech Valley High Program

- NYS graduation requirements
- NYS learning standards and exams
- College credit
- Online courses

- Four years of math and science
- Multiple pathways for career and college interests
- Career exploration and field work
- Advisory
  - Teacher and peer mentoring
Additional TVHS Graduation Requirements

• J-Term/Senior project
• Digital portfolio
• Community service
Results

• Meets NYS graduation requirements
  • NYS learning standards
  • Regents exams

• Goes above and beyond
  • CWRA
  • Youth Truth

• 100% on-time graduation rate

• 100% graduation acceptance rate

• 93% enrolled in college

• Nearly 50% pursuing STEM
FACILITATOR: a “guide on the side” who provides coaching and mentoring, a support person who troubleshoots and problem solves when students need help.
QUESTIONS?