The New Tech Network: Transforming Schools into Innovative Teaching and Learning Environments

Background

The New Tech Network (NTN), a national nonprofit organization, engages with public school districts and charter school organizations to develop innovative schools. NTN schools are centered around a culture that empowers, teaching that engages, and technology that enables so that students graduate ready for college and career. Student achievement is the measure of our success.

Founded on the core belief that public schools can create, operate, and sustain innovation, NTN strives to ensure that all students have the skills, knowledge, and attributes they will need to thrive in post-secondary education, career, and civic life. Professional development and coaching are the secrets to successful NTN schools. Teachers and administrators participate in comprehensive professional development and receive on-site and virtual coaching during the first four years of implementation. Adult learning takes place during national events, including a one-week in-depth training for new NTN schools, an annual conference for all schools in the network, and events designed specifically for school leaders and targeted content areas.

Students and teachers utilize Echo, a learning management system designed to facilitate project-based learning (PBL), which is the heart of our instructional approach. PBL is a form of inquiry-based learning aligned with state content and/or *Common Core State Standards* that is contextual, creative, and shared.

The NTN design is simply a blueprint, accompanied by a set of core beliefs, tools, and strategies to help schools become successful. Because each school's context is different, it is local leadership, judgment, and adaptability that lead to long-term success.

Documented Results

There is compelling evidence that the public school innovation envisioned by NTN can, and does, lead to success for students from diverse backgrounds, in rural, urban, and suburban schools across the United States. For example, NTN students:

- graduate at a rate 6% greater than the national average.
- enroll in college at a rate 9% greater than the national average.
- persist in four-year colleges at a rate 17% greater than the national average, and in two-year colleges at a rate 46% greater than the national average.
- grow 75% more in higher order thinking skills between freshman and senior years than comparison groups.

NTN participates in the Deeper Learning Student Assessment Initiative (DLSAI), jointly sponsored by the William and Flora Hewlett Foundation, Carnegie Corporation of New York, W.K. Kellogg Foundation, and James Irvine Foundation. The purpose of the DLSAI is to validate methods for assessing deeper learning. As part of this work and NTN's ongoing effort to promote and assess deeper learning, NTN is implementing College Ready Assessments (CRA). CRAs are co-developed, refined, and validated by the Stanford Center for Assessment, Learning,

and Equity (SCALE) and Envision Learning Partners. The assessments represent a common, high-quality standard for student work grounded in a discipline. CRAs align to the *Common Core State Standards* and are embedded in project-based learning with the explicit purpose of assessing students' ability to produce college-ready work.

Potential Applications

While the NTN design has the versatility to accommodate just about any curriculum program, a great many of our schools, such as Tech Valley High School (TVHS), have used the NTN design as an excellent foundation for creating a STEM-designated school. TVHS has had success with this endeavor because so many facets of the model align with best practices for STEM schools and STEM education. Hence, NTN schools are "STEM-ready" because:

- they represent whole school reform, not a change in just methodology, or just schedule and classes. From pedagogy, to culture, to technology used, NTN schools reimagine schooling. Whole school change has been identified as a crucial step to improving STEM education by the Carnegie Corporation on New York's Institute for Advanced Study;
- project-based learning supports and reflects the kind of work that scientists and engineers do. The efficacy of this teaching approach is proven with test scores and at least one study of students after graduation;
- teaching, assessment, and grading of 21st century skills (like oral communication, written communication, collaboration, and agency) at NTN schools maximize the likelihood that students exit with skills needed in the collaborative workplace;
- integration of courses as part of the NTN model allows for technical disciplines to be melded into classes such as literature or history that traditionally do not include STEM concerns/topics;
- internships are a graduation requirement, which affords students clearer understanding of STEM careers and rigor, if they choose an internship in a STEM field;
- digital portfolios are a graduation requirement, which ensures heightened communication skills in digital media;
- the expectation of outside assessors for projects creates porosity between school and STEM-related businesses and community members, and paves the way for partnerships with schools; and
- consistency in pedagogy and 21st century skill instruction create "Clear Goals and Assessments," as called for by the National Science Board as one of the ingredients for successful STEM schools.

For More Information

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