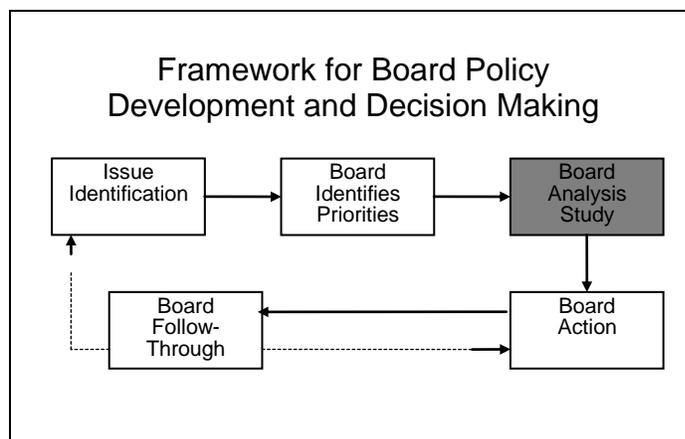


# Iowa State Board of Education

## Executive Summary

January 14, 2010



- Agenda Item:** Innovative Program – New Tech Network
- Iowa Goal:** All K-12 students will achieve at a high level.
- Equity Impact Statement:** School districts have the responsibility to ensure that all students have access to high quality learning opportunities.
- Presenter:** Representative(s) from New Tech Network/KnowledgeWorks
- Attachments:** 1
- Recommendation:** It is recommended that the State Board hear and discuss this information.
- Background:** New Tech Network, a division of KnowledgeWorks, works nationwide with schools, districts, and communities to develop innovative high schools. It helps schools fundamentally rethink teaching and learning, empowering students to become the creators, leaders, and producers of tomorrow. Founded in Napa, California, in 1996, New Tech is made up of 41 schools in nine states serving more than 8,500 students.
- Project-based learning (PBL) is at the heart of New Tech's instructional approach. PBL uses technology and inquiry to engage students with issues and questions that are relevant to their lives. In New Tech classrooms, teachers design rigorous projects tied to state and district standards and customize them to their location and the interests of students. Students then work in teams to acquire and apply knowledge and skills to solve problems. New Tech's approach to PBL fundamentally changes the role of teacher and student. Instead of traditional one-to-many instructors, teachers become facilitators and coaches who guide students to take charge of their own learning, invent their own solutions, and develop self-management techniques.



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## Reimagining Teaching and Learning: The New Tech Network

New Technology High Schools (NTHS) create an engaging student-centered learning culture that empowers and supports teachers and prepares students for success in college, career and citizenship. Best in breed teacher and principal professional development in the use of rigorous project based learning as the primary pedagogy ensures students acquire critical 21st century survival skills (e.g., analytical, critical thinking and problem solving). A collaborative on-line learning platform, PeBL™, along with a one-to-one computer environment provides a foundation for integrating technology and teaching. PeBL™ supports a learning environment where students work on complex projects, collaborate with peers, and are assessed on authentic outcomes. PeBL™ also supports teacher development, proliferation of project based learning units and opportunities for teachers to share these units across a virtual network.

New Tech's uniquely rich real-time authentic assessment contributes another value-add. Students are rigorously assessed on critical and analytical thinking, collaboration, communication and media literacy through the use of multiple assessments and carefully constructed rubrics. Differentiated student learning is supported through a mesh of multiple measures including peer and teacher review, performance assessment, portfolio assessment, traditional examinations, and completion of mandatory college level coursework.

Supported by the New Tech Network (NTN), a high capacity school development organization, this scalable and adaptive approach to 21st century leading and learning has proven effective in amazingly diverse geographies and demographics. By fall 2009, this powerful model will have been implemented in 50 schools in 10 states with most schools primarily serving low income students and populations with a high proportion of students of color. Currently, nine of the 40 New Tech High Schools have a STEM focus including schools in Indiana, New York, North Carolina, and Texas; slightly more than a third are urban, another third rural, and slightly less than one third in first ring communities.

The New Tech approach was pioneered at the Napa New Tech High School. In 2005, a study of Napa New Technology High School alumni regarding their postsecondary education and/or career, 21st Century skills, knowledge and use of technology, and on what they valued most about their NTHS experience showed that:

- 89% of respondents attended a 2 or 4-year college/university or professional/technical institute.
- 40% of respondents were majoring in STEM fields or were working in STEM professions.
- Students graduate well versed in standards-based education, 21st century skills, and are ready for college and careers as indicated through multiple assessment measures that are transparent to teachers, students, and families.

This past year, NTN conducted a comprehensive assessment of the performance of all the high schools in its network. This evaluation included analysis of a range of leading and lagging indicators around standards mastery, student behavior, teacher quality, and college readiness. Analysis of 2007-08 results demonstrated salient patterns of student achievement gains.

- Among California New Tech sites, the average Academic Performance Index (API) score was 680, with 4 schools scoring over 800.
- On the California Standards Test (CST), 9th grade New Tech students consistently outperformed their peers at comparable sites and/or the district-wide averages in Reading and to a lesser extent, in Mathematics. For example, the Student Empowerment Academy at Jefferson High School in Los Angeles, one of the worse performing high schools in Los Angeles Unified School District, had an increase of more than 100% in the percentage of students scoring proficient or above in one year on the CST Reading Test. The majority of students who attend this small autonomous high school on a large campus are first generation Latinos who are English language learners.

- On the 2007-08 California High School Exit Exam (CAHSEE), the majority of 10th grade students at 7 of the 8 NT schools passed the exam. At 5 of the 8 sites, the pass rate was 70% or higher in both Reading and Math.

These achievement patterns remained consistent among New Tech schools in other states.

- In North Carolina, between 60% and 93% of New Tech students scored at grade level or above on the state's English I End-of-Course Exam with New Tech students at 6 of the 9 sites with available data outperforming the district and/or state.
- In Texas, New Tech schools demonstrating significant growth. Manor New Tech High School – a lower income, first ring community outside of Austin, TX - scored consistently higher on the state TAKS test compared to the district and state averages. In Reading, 91% of the Manor New Tech students met the state standard, as did 69% in Math and 80% in Science.
- Returning to California, *The Sacramento Bee* showed that the New Tech district charter school had the highest graduation rate in Sacramento.

Linda Darling Hammond considered high schools in the New Tech Network as the kind of high school that “breaks the conventional links between race, poverty, and academic failure. Not only do their students receive an academically rigorous curriculum that prepares them for college and career, they also experience learning opportunities that are culturally rich, socially and practically relevant, and responsive to their needs and interests.”<sup>1</sup>

Clearly, the NTN has established a system that provides the necessary professional development, instructional resources, and technology to steep the teachers in a pedagogical approach that supports powerful learning experiences. Educators recognize that project base learning can deliver knowledge and 21st century skills, but no one else has systematized the creation of schools that fulfill the promise of generating learning opportunities for students with truly augmented experiences.

### **New Tech's Emerging Statewide Prominence**

This learning model has gained significant traction in many states. Indiana in particular, is using New Tech as a catalyst for economic development and to address the issues of global and academic competitiveness. Indiana will have 8 high schools in the New Tech Network by Fall 2009 with its Governor and State Education Agency aiming for an additional 24 schools in the New Tech Network by Fall 2011. Indiana created support for New Tech expansion by investing in one-to-one computing environments for all students and funding waivers to allow computing technologies and digital resources to be substituted for textbooks. Six of the New Technology schools in North Carolina were created as small schools by the Governor. Recently, Hillside New Tech was selected by the North Carolina New Schools Project (NCNSP) and the University of North Carolina system to be part of the Learning Laboratory Initiative, a \$2.5-million effort funded by the Bill and Melinda Gates Foundation to accelerate the development of innovative high schools that can demonstrate rigorous, highly effective instruction and deep student engagement to educators, university faculty and policymakers. Louisiana has identified New Tech schools as the foundation of their statewide high school redesign initiative and will have 7 schools in the Fall 2009. Michigan wants to support the creation of New Tech High Schools as part of the states Re-imagining Initiative and Hawaii wants to include New Tech as part of their statewide adaptive leadership system and as a means to address Hawaii's statewide learning outcomes.

Thought leaders can embrace this model to not only engage students, turning around low performing schools and implementing an innovative approach to learning, but also to drive a new economy and to produce students who can excel in the STEM fields. Teachers have a new framework to rethink instruction, assessment and student learning. Students' intellectual curiosity is fed and they can become independent and lifelong self-directed learners.

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<sup>1</sup> Race, Inequality, and Educational Accountability: The Irony of ‘No Child Left Behind,’” Race, Ethnicity, and Education, Vol. 10, No. 3 (September 2007), pp. 245-260.