

# Owensboro Public Schools – A District of Innovation

*“Learning and innovation go hand in hand. The arrogance of success is to think that what you did yesterday will be sufficient for tomorrow.” –William Pollard*

## Introduction

The Owensboro Public Schools (OPS) take pride in seeking to model Pollard’s idea. Throughout our history, we have taken risks that have proven successful and have constantly determined what needs to change in order for transformation in student learning to occur. OPS has embraced innovation through several successful endeavors, and all are a result of risk taking. First, OPS is a leader in programs for fine and performing arts. Because of the visionary leadership, state-of-the-art performing facilities exist with thriving programs in theater, dance, voice, band, and orchestra. Second, the district embarked a Learning Innovation in 2010 to revolutionize learning by introducing a ubiquitous digital learning tool. This one-to-one learning initiative would not have been possible without the extraordinary planning and vision modeled by our leadership.

## District Mission/Vision

Owensboro Public Schools is on a mission. We are not only committed to graduating every student college and/or career ready, but also building the 21<sup>st</sup> Century Learning Skills: creativity, critical thinking, communication, and collaboration.

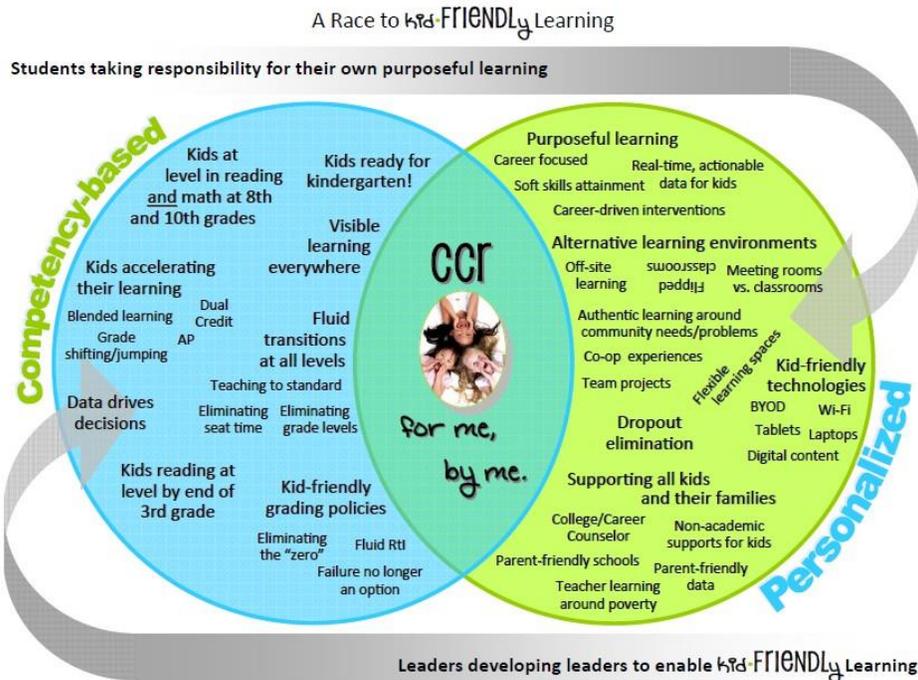
We commit to graduating every student college and/or career ready equipped to:

- think critically and creatively
- solve problems
- communicate and collaborate effectively.

The district promotes continuous improvement and rewards risk taking. Our most recent example is the implementation of the Digital Innovation Project, which involves the provision of a laptop computer to each 5<sup>th</sup>–12<sup>th</sup> grade student in the district. As a result of the comprehensive planning and implementation of this project, Owensboro Middle School was recognized as an Apple Distinguished School for the 2012–13 for its vision and implementation of digital technology. We have encouraged our teachers to focus primarily on the use of the laptop as a seamless instructional resource to prepare students for the 21<sup>st</sup> century.

Owensboro Public Schools has also demonstrated our commitment to innovation and risk taking in order to improve student learning by joining the Green River Regional Educational Cooperative in applying for the Race to the Top “kid.FRIENDLY” project. We did not join this project blindly. We researched the project goals and determined that they are aligned with the direction we had already decided would benefit our students. The vision of the kid.FRIENDLY grant is

to create a shift from teacher-led instruction to competency-based, kid friendly learning; we will not only eliminate the “when will I ever use this” mentality but systematically lead students in our high-poverty schools to career and college readiness. Our district has a commitment to achieve the goals of this grant, which are summarized in the graphic below.



In July 2013, OPS took another step in innovative leadership by hiring Dr. Nick Brake as superintendent. Dr. Brake’s nontraditional path to this position has resulted in substantial benefits to the district in the development of the District of Innovation plan. Beginning as a master social studies teacher and a District Assessment Coordinator, Dr. Brake began to understand the economic imperative and implications of what college and career ready means to the community. From K-12 education, he entered the postsecondary education field by serving as a cabinet-level administrator at Owensboro Community and Technical College. Next, Dr. Brake stepped out of traditional P-20 education in the role of the Greater Owensboro Economic Development Corporation’s CEO and collaborated with business, industry and education to bring jobs to the community. In serving as our superintendent now, Dr. Brake is poised to merge knowledge and experience in order to pave the way forward for the entire regional community.

Several variables have come together in our community to create “the perfect storm” for the development of this innovation plan:

- **State accountability tied to college and career readiness:** An imperative exists for middle and high schools to create engaging and certificate-bearing programs for students.

- ***Economic needs of community:*** Despite national economic trends, the Owensboro region is burgeoning. Several key areas of economic growth need educational partnering.
- ***Restructuring KCTCS:*** With the change of entry standards and the consolidation of the community college system, enrollment in credit-bearing courses has significantly lessened over a 10-year period.
- ***Alternative education regulation (704 KAR 19:002):*** Our district, as well as all others across the state, is mandated to take a closer look at all alternative school populations. All school districts in the Owensboro region have a desire to examine different programming for alternative students.
- ***Raising dropout age to 18 (SB 97):*** Owensboro Independent was one of the first districts to sign on to this initiative from Governor Beshear and the legislature. This action must be followed by a commitment to craft programming for students that will engage them and equip them with necessary work-ready skills.
- ***OPS hires innovative and progressive superintendent:*** Dr. Brake is ready to come full circle to merge educational need with economic development. His relationships built across P-20 education and the business community are unmatched.

The district stands ready to work in partnership with other school and community organizations to design an innovative 7-12 school that would be the first of its kind in the state, and possibly the nation.

The Owensboro region is one of the few geographic areas without a traditional area technical center. OPS benefits from a partnership with Owensboro Community and Technical College (OCTC), which has worked diligently to serve our high school students given the standards change that has occurred in recent years. Our District of Innovation proposal does not seek to recreate the area technical center or to create another traditional high school experience. In addition, the proposal does not seek to duplicate the efforts of OCTC. Rather, the region is ready for a model that identifies a student's passion, matches it with an economic need leading to middle income family sustainability, and implements programming in an innovative space and environment.

Owensboro has just built a \$385M regional hospital with huge needs in health care related staff, as well as Information Technology workers. The Owensboro region is also home to several banking centers, with US Bank identifying Owensboro as the headquarters for its mortgage banking sector. The need to identify a pipeline for Industrial Maintenance staff is also hugely prevalent in our community. A total of 15 of the top 25 regional employers have industrial maintenance staff, with 50% of the current staff nearing retirement.

In 2010, while Dr. Brake was the CEO of the Economic Development Corporation, action was taken to address some of these needs. Together with area

superintendents, local business and industry, and regional Boards of Education, Community Campus was created. The goal of Community College was to identify economic needs and pair them with the physical site that was best equipped to educate students in fulfilling the specific need. Agreements were made among school districts to allow students to attend programming at regional educational sites, while still maintaining their home school and district affiliation. In three years' time, Community Campus now has over 300 students in one of four academies: Life Science, Science Technology & Engineering Academy, Construction, Trade & Energy, and Entrepreneurship & Business.

Although Community Campus has addressed instructional needs for students who are college ready, a significant need exists for programming that addresses career readiness and middle skill areas. As the table below demonstrates, the number of students in the region who do not have access to technical and college programs at OCTC has significantly decline over the past decade.

	2003	2013	
*High School Students enrolled in Technical Programs at OCTC	456	180	*Numbers include students primarily from the following high schools: Apollo, Daviess County, Hancock County, McLean County, Owensboro, Owensboro Catholic, and Whitesville Trinity
*High School Students enrolled in Discover College at OCTC	1,300	430	

Our current school and district data illustrate that we are not meeting our goal of graduating every student college and/or career ready. According to the 2011---2012 Unbridled Learning results, only **55.5%** of our students graduated college and/or career ready, with a district graduation rate of **86.8%**. To drastically increase our success rate, we must be willing to re---invent current practices to better meet the needs of our students.

To determine innovative practices to address gaps between student expectations for student learning and student performance, the district has researched several models across the nation. OPS administrators and teachers have visited High Tech High in Columbus Indiana and several New Tech High sites in Napa, California. We have investigated programming that the Office of Career and Technical Education is interested in piloting: Southern Regional Education Board newest curriculum as well as National Academy Foundation's resources.

The following team has participated in the development of the innovative plan; each individual is committed to a partnership and support of our efforts:

Name	Role	Organization
Nick Brake	Superintendent	Owensboro Public Schools
Jim Klauber	President	Owensboro Community and Technical College
Ken Rasp	Director	Owensboro Catholic Schools
Owens Saylor	Superintendent	Daviess County Public Schools
Tres Settle	Superintendent	McLean County Schools
Kyle Estes	Superintendent	Hancock County Schools
Amy Jackson	President	Greater Owensboro Chamber of Commerce
Fr. Larry Hostetter	President	Brescia University
Craig Turner	President	Kentucky Wesleyan College
Helen Mountjoy	Chair	Community Campus Steering Committee
Marcia Carpenter	Director	Community Campus
Madison Silver	President	Greater Owensboro Economic Development Corporation
Beth Benjamin	College & Career Readiness Coordinator	Owensboro Public Schools
Ryan Williams	Curriculum Facilitator	Estes Elementary School, OPS
Gene Tice	Chancellor	Western Kentucky University – Owensboro campus
Al Mattingly	County Judge Executive	Daviess County Fiscal Court

This team further analyzed numerous sources of data and determined three major target issues or barriers that need to be addressed in transforming current models of student learning to produce students better prepared for next generation learning. These target issues are Children/Families in Poverty, Quality Teaching, and Postsecondary Attainment. In order to address these major issues, the decision was made for OPS to adopt the New Tech Network (NTN) concept. Providing world---class professional development combined with a large collaborative network, the school promises to address the critical issues our community faces.

### **TARGET ISSUE 1: CHILDREN/FAMILIES IN POVERTY**

Our community has a tradition of educating bright young people who leave home to go away to college – and never return. Our proposal is committed to building a strong and capable workforce among the population that remains in the Owensboro/Daviess County/Hancock County region. A large percentage of students never become engaged in high school. Minority children and children in poverty are disproportionately represented in the unengaged student population. The unengaged students (including dropouts) remain in the region and are, or would like to be, a part of our local workforce. Students who are not doing well in our schools need new options for learning that will: 1) meet their unique talents and skills and 2) prepare them for both family---sustaining jobs and a role in boosting our local economy. We must be willing to accept challenging and innovative ideas that go beyond practices implemented in the past. In spite of the technological advances and globalization that have accelerated the pace of economic change, our system of education has largely stayed the same. We are already witnessing the results of innovation in Owensboro health care, downtown development and cultural

amenities; education must also be innovative. Our minority children and our children in poverty deserve an innovative world---class education. Education is the engine that will drive change and get children out of the cycle of poverty. The unengaged student is the target audience for this school.

The New Tech Network report provides compelling evidence that the public school innovation envisioned by New Tech Network can, and does, lead to success for students from diverse backgrounds, in rural, urban and suburban schools across the U.S.

New Tech Network 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 4---year colleges at a rate 17% greater than the national average and in 2---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.

**TARGET ISSUE 2: QUALITY TEACHING**

A quality teacher is the change agent. Teachers CHOOSE to be part of the New Tech team. When selected, they must agree to immerse themselves in a year of preparation for increased success in innovation and student learning. The partners have worked with the dean of the college of education at Western Kentucky University for teachers to earn graduate credit for this training. Teachers at New Tech schools report that the New Tech environment is rigorous but rewarding. As described in the Professional Development section, the New Tech Network empowers teachers through intensive training on how to develop a unique family culture for the project---based, real world, personalized learning.

**TARGET ISSUE NUMBER 3: POSTSECONDARY ATTAINMENT**

The Bureau of Labor Statistics reveals compelling need for increased post---secondary degree completion in the Owensboro region.

<b>Economic Impact for Owensboro Area</b>	<b>Postsecondary Workforce Goal (# needed in Owensboro to reach level of attainment)</b>	<b>Average Annual Earnings</b>
US Postsecondary Attainment	14,861 additional people	\$131.6 million
KY Postsecondary Attainment	8, 414 additional people	\$79 million

Education	Average Annual Earnings	Average Lifetime Earnings
High school dropout	\$22,000	\$1.1 million
High school diploma	\$31,000	\$1.4 million
Associate degree	\$38,000	\$1.8 million
Bachelor's degree	\$50,000	\$2.5 million

A total of 42% of the Owensboro adult population has a postsecondary education, which is **below** both the national and state average. The New Tech school will address the need to bring the Owensboro region in line with the national average and beyond. The economic impact of bringing our postsecondary attainment to the national average is **\$131.6 million dollars annually**.

New Tech Network believes that deeper learning and college readiness for students are what matters most. NTN defines deeper learning as the ability to master core academic content, think critically, solve complex problems, work collaboratively, communicate effectively, and learn how to be self-directed learners. Student success in these areas cannot be gauged by traditional measures such as standardized state assessments alone. Rather, NTN's focus on increasing students' deeper learning, and in turn their readiness for college, requires utilizing assessments that are calibrated to college-ready standards and embedded in the daily work of students. Student ability to think critically is better measured through learning grounded in real-world scenarios and embedded in on-going work. Ultimately, student achievement is assessed through outcomes that matter most: success in post-secondary options.

The new career and technical high school has a multi-phase implementation model. The timeline establishes 2014-15 as the mandated planning year with three phases of implementation during the subsequent school years as described below. The planning year will involve extensive guidance and support from New Tech as described in the Professional Development Plan. The planning process will also involve facility development and the establishment of partnerships with regional school systems and community organizations to address funding and staffing needs. With full implementation, the population will include 600 students in grades 7-12. Within the space of one campus, all programs below will be housed for regional student use:

**Phase I (2015-16)**

Life Science Academy	STEM Academy	Construction Trade Academy
Bio-Medical Pathway	Manufacturing Pathway	Welding Pathway
Staff: 1 teacher	Staff: 1 teacher	Staff: 1 teacher
Facility: Science Lab/Classroom	Facility: Lab/Classroom	Facility: Welding Lab

### **Phase II (2016---17)**

Life Science Academy	STEM Academy	Business Academy	Construction Trade Academy
Health Sciences Pathway	Computer – IT Pathway	Finance & Mortgage Banking	Mechatronics Pathway
Staff: 1 teacher	Staff: 1 teacher	Staff: 1 teacher	Staff: 1 teacher
Facility: Health Lab/Classroom	Facility: Computer Lab	Classroom	Facility: Mechatronics Lab

### **Phase III (2017---18)**

Business Academy	New Tech Network	Other Facility Needs	Construction Trade Academy
Entrepreneurship Pathway	100 students per grade level (9---12)	Office/Admin Suite	Construction Pathway
Staff: 1 teacher	Staff: 16 teachers	Cafeteria	Staff: 1 teacher
Facility: Classroom	Facility: 10---12 classrooms	Library/Learning Center	Facility: Construction Lab

### **New Tech Network and Its Origins**

New Tech Network is a non---profit organization that helps high school students gain the knowledge and skills they need to succeed in life, college, and the careers of tomorrow. NTN works nationwide with schools, districts, and communities to provide services and support that enable schools to implement innovative high schools that promote deeper learning.

NTN began in the mid---90s in Napa, California. Local business leaders were concerned that meeting basic standards would not be enough to ensure that students were graduating with the skills needed to meet the needs of the new economy. . Working with the local school district, they began researching innovations in education to re---imagine what a truly great school might be like. In 1996, the Napa Valley Unified School District established Napa New Technology High School with the first class of 100 students. As Napa New Technology High School thrived, local business leaders and education advocates came together to ensure the school’s long---term success and sustainability by establishing the New Tech Foundation. In 2001, New Tech was awarded a \$6 million grant from the Bill and Melinda Gates Foundation. With this funding, New Tech was charged with launching 14 schools over three years.

From this initial launch, New Tech has continued to grow. In the 2006---07 school year, New Tech opened 23 new sites in four states, supported by an online learning system. In 2009, New Tech became a subsidiary of KnowledgeWorks, allowing New Tech to further expand its reach. In 2010, New Tech had its greatest growth ever,

opening 27 new schools. Today, New Tech Network supports 134 schools in 23 states and Australia. New Tech schools leverage what research reveals about how people learn to create an exceptional teaching and learning environment. Based on this research and their own experience, NTN create a rigorous and engaging high school experience that features Project---based learning, the seamless use of technology, and a positive and empowering school culture.

**Project---based learning** is at the heart of NTN’s instructional approach. In project---based learning, learning is contextual, creative, and shared. Students collaborate on projects that require critical thinking and communication. By making learning relevant to them in this way, student engagement reaches new levels. This higher level of engagement is associated with better educational outcomes.

The smart use of **technology** supports our innovative approach to instruction and culture. All classrooms have a one---to---one computing ratio. With access to Web---enabled computers and the latest in collaborative learning technology, every student becomes a self---directed learner who no longer needs to rely on teachers or textbooks for knowledge and direction. NTN uses Echo, an online learning management system to create a vibrant network which helps students, teachers, and parents connect to each other and to student projects across the country.

Finally, each New Tech school maintains a **culture** that promotes trust, respect, and responsibility. At New Tech schools, students and teachers alike have exceptional ownership of the learning experience and their school environment. Working on projects and in teams, students are accountable to their peers and acquire a level of responsibility similar to what they would experience in a professional work environment.

This approach is working. NTN schools demonstrate high levels of student engagement and continued growth along several measures of academic progress. Results on college acceptance rates, graduation rates and behavioral indicators point to strong performance levels among many New Tech schools.

The Owensboro Public Schools have already committed to the New Tech High conditions for success and are ready to embrace the model. New Tech Network mandates the following:

### **Conditions for Success**

Before starting a New Tech school, districts must lay a solid foundation for the model by committing to the basic conditions critical for school success. Conditions for success include:

- Creation of an autonomous public high school with a unique identity
- Small school size of 400---500 students
- Creating a professional climate based on trust, respect, and responsibility
- A computer for every student with school---wide internet access

- Scheduling flexibility to support team teaching and cross---curricular projects
- All courses taught with project---based learning as the primary method of instruction
- Creation of physical learning spaces that support team teaching and student collaboration

New Tech Network also touts a diverse student population. The new career tech high school would intentionally follow the national NTN trends (as shown in the table) in terms of its diversity, including special populations. The intent is to NOT create a gifted/ talented school or a “dumping ground” school. Rather, the New Tech school will be seen as a prestigious application---based system where particular populations are highly encouraged to apply. It is anticipated that the diversity at our New Tech school will follow local demographics in representation of racial/ethnic groups, socioeconomic status, and other special populations.

<b>Diversity in NTN Schools</b>	
African American	24%
American Indian	<1%
Asian	5%
Hispanic	21%
White	48%
Multi---Racial/Other	2%
Male	54%
Female	46%
ELL	5%
Special Education	9%
Free/Reduced Lunch	47%

**What will look different in this model?**

**1) High School/College Campus** – OPS is not aware of another site like the one we envision. If the plan is fully implemented, the grade 7---14 facility (under one roof) would house high school college---ready programs that lead to industry certification **as well as** stand---alone college courses. All these programs would have a New Tech Network overlay whereby frameworks and proven models of success will be infused in both high school and college programs. Students would have opportunities to complete an Associate’s Degree, for instance, right on the campus. Traditional academic teachers would become part of the instructional fabric of the technical curriculum. New Tech Network, National Academy Foundation, and the Kentucky Advanced Manufacturing curriculum mandate a co---teaching partnership.

Funding for this innovative school program must also be collaborative. Kentucky uses SEEK funds to fund traditional academic programs throughout the state’s K---12 system. In addition, SEEK dollars are also earmarked for those enrolled in postsecondary dual credit programs held on OCTC’s campus. The state legislature also funds stand---alone career technical centers operated by school districts. Our intent is to mesh all these systems to create a hybrid structure. The partnership, however, must be mutually beneficial for all K---12 school districts involved plus our postsecondary partner, OCTC. To maximize the benefit for students, we seek a designation as a stand---alone career technical institute that offers both high school and college credits under the same roof. We have discussed this need with Dale Winkler in KDE’s Office of Career and Technical Education. He understands our intention as well as our unique request.

- 2) Competency Based Credit** – The New Tech model requires a shift in instructional thought. A fundamental change will be made to self-directed learning in which students become acutely aware of their academic learning goals and have a voice in choosing projects that will help them master those goals. Students will be encouraged to find their own learning paths -- those best suited to their needs. Concepts such as inquiry, exploratory, and project-based learning will be the norm, with the role of the Facilitator (teacher) shifting from deliverer of knowledge to learning coach.

Support of students during the learning process will be based on the needs of the individual student. For example, if a student is struggling with grade-level reading comprehension, then the Facilitator would focus on identifying the relative weakness and help the student determine a path to best overcome that learning gap.

Rather than an emphasis on traditional testing, students would demonstrate competency through application of content standards to the underlying problem-at-hand. Standards would be framed, either by the Facilitator or by the student, contextually in such a way that solving the problem or creating the end product would require mastery of the standards. The role of the Facilitator during this process would be to provide additional guidance as needed.

- 3) Expanded Learning Opportunities** – The new career and technical high school would be designed with ultimate academic versatility and freedom in mind. Students who want to make the NTN school their “home” would take courses during the entire school day. Students who want a portion of their day devoted to specialized programming would come and go as necessary. Additionally, students desiring to stay involved in their home high school’s co-curricular programs would be encouraged to do that as well. We envision a school where the entry lobby has high school flags representing all high schools in the region.

Students will have the opportunity to pursue their own interests and create their own electives. For example, a student (or collaborative group of students with a common interest) may spend a portion of the day developing an innovative application for use on a Smart Phone. This structure will provide an autonomous opportunity for students to learn the standards in a context that truly interests them.

The New Tech program espouses apprenticeships and internships as a capstone course. Students would have a voice and direction in where that experience would happen. Students will become immersed in the experience and build professional relationships in business and industry.

- 4) Multiple Assessments/Pathways to Graduation** – In concert with the district’s College and Career Ready Coordinator (funded by the KidFriendly Race to the Top grant), students would be identified for potential programming

opportunities early in middle school. Based on an individual family decision, students could enter the school as early as seventh grade. Each program in the school must have an industry certification in which students can become career ready. Academic programming within the school will make the student college ready. Due to the innovative class structure of New Tech, facilitators will be able to team teach and design courses that directly meet the needs and interests of students. They will also have access to curriculum of other teachers across the network for best practice ideas.

## 5) Innovative Learning Environment

Designing the space for the new career technical high school will follow the general architectural trends of other New Tech spaces, as shown in the photos. Highlights of the spaces involved include:

- Potential re---tooled or re---purposes business and/or warehouse spaces
- Open air floor plans
- Glass walls for open and transparent views of lab/classroom activity
- Learning/collaborative spaces for small teams of learners
- Meeting rooms for collaborative teams
- Open wifi for 24/7 access
- Double---sized classrooms to accommodate student projects



## 6) Alternative Forms of Governance

Due to the unique nature of the New Tech school involving both full---time and part---time students from different schools, the school---based decision making council requirements will not be implemented. A collaborative form of governance will be emphasized, however, with the establishment of a structure including representation from the following groups: a Facilitator, a principal, a parent of a participating student, a district administrator, and a representative of business/industry.

## 7) Job Classifications

New Tech job classifications will move beyond the current role of teachers due to the unique structure with blending of technical college and high school programming, as well as the emphasis on project based learning and collaborative learning environments. Although Kentucky certification will be required, New Tech teacher requirements are different and will be based on the need for instruction in three phases of implementation in Life Science, STEM, Construction Trade, and Business Academies.

## Projected Long Term Growth of Program

If year one yields the expected successful results, the program will build teacher capacity and community interest over time. The proposal is to take the advice of Clayton Christensen in his book *Disrupting Class* and begin by targeting students who are not currently experiencing success. As the model is implemented, however, the belief is that the model will be effective for all types of learners – from the most academically gifted to the most academically struggling student.

The combination of instructional strategies and techniques integrated into the New Tech model will empower and engage students to become independent problem solvers and critical thinkers. In his book, *Creating Innovators*, Tony Wagner discusses how in order to “think differently, one must act differently.” The New Tech model encourages both students and their Facilitators to act differently than what is currently being asked of them in the educational system. By acting differently, those students will start to view the world differently. When that occurs, students will see how to identify problems and then draw on their own expertise to develop new solutions. The ultimate goal of the program is to demonstrate how important it is that all students be given the opportunity to break free of the shackles of the industrial-age system of content delivery.

The New Tech model emphasizes differentiated instruction and integration of the Kentucky core academic standards, but more importantly it emphasizes student-directed learning. To find success in college or in a career, individuals must be able to be self-sufficient. Even the prototypical academically successful students sometimes struggle when they reach the collegiate level because the external support system they relied upon in K-12 education does not exist in a freshman survey course filled with a few hundred students. The New Tech model will direct students toward greater intellectual independence so that if faced with the same situation, the New Tech graduate knows how to find the answer to the professors' questions on his/her own.