

5-8-2014

## New Tech Network in Arkansas

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### Citation

McKenzie, S. C., & Ritter, G. W. (2014). New Tech Network in Arkansas. *Policy Briefs*. Retrieved from <https://scholarworks.uark.edu/oepbrief/36>

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## Summary Points

- **New Tech high schools focus on teaching that engages (project-based learning), technology that enables, and a culture that empowers.**
- **Part of Governor Beebe's 2011 STEM Works Initiative called for some Arkansas high schools to begin using the New Tech model.**
- **Nationally, New Tech students graduate, enroll in college, and persist in college at a rate higher than the national average. Arkansas-only statistics are not available.**
- **Some challenges of implementing New Tech are instilling community confidence in a new model and developing an infrastructure to support the technology component.**
- **Rogers New Technology High School and Lincoln High School are spotlighted in this brief.**

## **New Tech Network in Arkansas**

*The New Tech Network high school model is a component of Governor Beebe's 2011 STEM Works Initiative and currently operating in several Arkansas high schools. This policy brief examines the New Tech model, including both its successes and challenges, and spotlights two Arkansas high schools that are using the model.*

### **Introduction**

The New Tech model has been operating in Arkansas for nearly three years now. It is currently being implemented in fourteen Arkansas high schools and one intermediate school, with plans to expand to another high school next year. At fifteen schools, Arkansas is operating the third most New Tech schools in the country, after California and Indiana.<sup>1</sup> This policy brief will examine the history and proliferation of New Tech high schools, the model's results, its challenges, and its impact on Arkansas.

### **History of New Tech**

The first New Tech high school was opened in 1996 in Napa, California. Local business leaders in Napa were concerned that some students were not graduating with the skills needed for a 21st century economy. These business leaders worked with the local school district to research changes that could be made, including incorporating project-based learning and the use of technology throughout the curriculum. Napa New Technology High School opened its inaugural year with 100 students.

## **This Brief**

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The school thrived and advocates formed the New Tech Foundation to provide continuing support. 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 expanding its school model elsewhere.<sup>2</sup>

Today, New Tech operates 135 schools in 23 states and Australia.<sup>1</sup>

### **New Tech in Arkansas**

New Tech came to Arkansas as part of an effort to improve STEM (Science, Technology, Engineering and Math) education. In August 2011, Governor Beebe and his Workforce Cabinet announced a pilot program called STEM Works, in order to help meet the increasing demand for workers in high-tech fields.<sup>3</sup> STEM Works is a two prong approach, with programs focusing on both post-secondary education and secondary education. In the post-secondary space, some Arkansas universities are implementing UTeach, which recruits college students in STEM subjects to consider becoming teachers. The secondary component consists of three different programs:

- 1) **EAST Core:** extends EAST-based principles into core math and science courses
- 2) **Project Lead the Way:** offers a project-based curriculum in pre-engineering for middle/high school students and for biomedical science in high school
- 3) **New Tech Network high school model:** integrates STEM education and project-based learning throughout the curriculum

### Becoming a New Tech School

Schools submitted a grant application to convert to a New Tech model and were subsequently chosen by the Governor's Workforce Cabinet. Those selected received some seed money to start the initiative.

In 2011, Cross County School District and Lincoln School District became the first two districts to implement the model. These two rural schools used a whole school conversion model, which means that every high school student in the district receives their education through the New Tech model.

Other than whole school conversion, schools may implement the shared campus model (the school shares a campus with the existing school and students have a choice to attend New Tech) or the stand-alone model, in which the high school operates in its own building, separate from the traditional high school. In the stand-alone model, students again have the choice to apply to and attend New Tech. The shared campus and stand-alone models are more expensive for a district to implement because they require two separate sets of faculty.

### The New Tech Model in Action

So, what is the New Tech model? Dr. Lance Arbuckle at Rogers New Technology High School and Courtney Jones at Lincoln High School provided us with an informative description and examples to go along with it. Each component will be discussed in further detail.

## Arkansas New Tech Implementation Types by Cohort

### Cohort I

School	Year Opened	Implementation Type
Cross County High School	2011	Whole school
Lincoln High School	2011	Whole school

### Cohort II

School	Year Opened	Implementation Type
Arkadelphia High School	2012	Whole school
Dumas New Tech High School	2012	Whole school
Marked Tree High School	2012	Whole school
Riverview High School	2012	Whole school
El Dorado High School	2012	Shared campus
Highland High School	2012	Shared campus
Hope Academy of Science & Technology	2012	Shared campus
Van Buren New Tech	2012	Shared campus

### Cohort III

School	Year Opened	Implementation Type
Blytheville High School-A New Tech School	2013	Whole school
Hillcrest High School	2013	Whole school
Trumann High School	2013	Whole school
Rogers New Technology High School	2013	Stand-alone

### Cohort IV

School	Year Opened	Implementation Type
Trumann Intermediate School	2014	Whole school

\*All of these schools are currently implementing New Tech models. Texarkana-AR High School is scheduled to open as a New Tech school in the 2014-15 school year.

### Three Main Components:

1. Teaching that engages
2. Technology that enables
3. Culture that empowers

#### Teaching That Engages

Project-based learning is at the heart of New Tech's instruction. Arbuckle explained that project-based learning can have different meanings: projects for assessment and projects for instruction. The New Tech model focuses on projects for instruction.

Projects start with a driving question. Arbuckle gave an example of a driving question used in a team taught English/American History classroom at his school:

*"What freedoms and responsibilities are insured in our form of government and why are they important?"*

In contrast, traditional instruction often consists of a teacher opening class by letting students know that today they will be learning about the Bill of Rights and then launching into a lecture. New Tech teachers are called "facilitators" and assume the role of "guide on the side" rather than "sage on the stage" (the all-knowing instructor).

Framing the learning objective as a question is intended to help students see real-world connections to their learning-how content connects to their life and *why* it is worth learning about, serving to engage and motivate students.

Next, teachers guide students through a process of identifying what they already know about this topic, what information they need to know, and what the next steps should be. For example, students may know that freedoms come from the Bill of Rights, but they may not know all of the necessary details that are included in the standards. Thus, a teacher's next steps could be to lead an optional mini-workshop on the Bill of Rights. This allows teachers to differentiate instruction. Some students may not need the workshop, but others

do. Teachers can highly recommend that certain students attend a workshop if they perceive a need for it.

After these steps are completed, students will complete a project that is based on inquiry into the driving question. The project will often involve collaboration with classmates. Students will research, plan, design and create a product or presentation on what they learned. These projects should be structured in a way that students have "voice and choice" while operating within the boundaries of the project. Students learn as they need to know and revise and reflect on their project. The last step includes students presenting their project to an audience.<sup>4</sup>

Proponents of project-based learning believe that students are motivated by this approach because the driving question and corresponding project is designed to teach a course's content on a deep and meaningful level.

#### Technology That Enables

The second aspect of the New Tech model is the technology component. All New Tech schools have a one-to-one computer ratio with Web access; in both Rogers and Lincoln, each student is issued their own laptop. The New Tech website indicates that technology helps to create "a self-directed learner who no longer needs to rely on teachers or textbooks for knowledge and direction." At Rogers, some books continue to be used to supplement instruction, but Arbuckle points out that information in textbooks is at best, three years old. With the Web, students have access to the latest information.

Another benefit to online learning is the use of online platforms, which Arbuckle believes helps prepare students for the college setting and allows teachers to provide immediate feedback. For example, a teacher poses a question to students related to the novel *To Kill a Mockingbird*, and students post their responses online. The teacher can provide immediate feedback to the students about their responses and recommend changes. This sort of instruction is common on today's college campuses, where most professors have an online component to each of their courses.



Another important tool utilized by New Tech is Echo, which is a learning management system designed to support project-based learning and facilitate communication and collaboration. Jones, from Lincoln High School, stated that her faculty have been impressed with the Echo system. Echo includes course resources, project plans, assignments, the gradebook, online groups, and an extensive library of instructional resources for teachers.

#### Culture That Empowers

The final aspect of the New Tech program is providing a professional

environment for students. At Rogers New Technology High School, there are no bells, and their common space has been dubbed the “cyber cafe.” It consists of couches and wall-to-wall carpeting. Students are encouraged to take their job as students seriously and to use the time to prepare for their futures.

### New Tech Successes

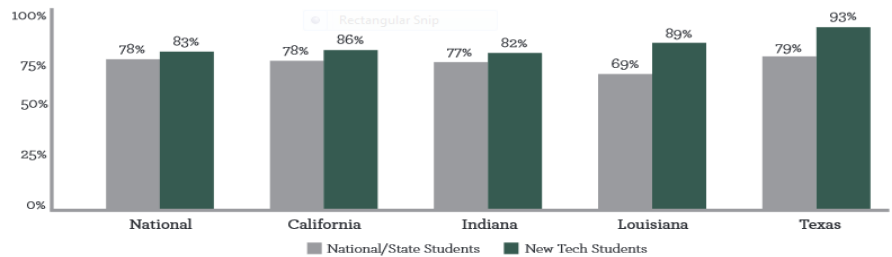
So, is the New Tech model successful? According to the New Tech Network’s *Student Outcomes Report 2013*, New Tech students graduate at a rate 6% higher than the national average, enroll in college at a rate 9% higher than the national average, persist in 2-year colleges at a rate 46% higher than the national average and in 4-year colleges at a rate 17% higher, and grow 75% more in higher-order thinking skills from freshman to senior year than comparison groups.<sup>5</sup>

In Arkansas, Arkadelphia High School, who implemented New Tech in the 2012-13 school year, was recently ranked in the top 1 percent of the nation’s high schools, and No. 4 in Arkansas by the *Washington Post*. This ranking is calculated by taking the total number of Advanced Placement, International Baccalaureate and Advanced International Certificate of Education tests given at a school each year and dividing by the number of seniors who graduated that year.<sup>6</sup> However, it may be difficult to substantiate that one full year of New Tech implementation in the 9th grade had a great influence on this ranking.

In our interviews, some Arkansas additional success stories were also discussed. The New Tech model uses cross-curricular teaching, and both schools mentioned how well it has worked for them to integrate and team teach Social Studies and Language Arts courses.

Jones also attested to the model’s effectiveness in developing students’ public speaking skills. Students that participate in project-based learning get lots of practice in this area, because part of the way they are assessed is to present completed projects to an audience. Even college speech teachers have commented on former Lincoln students’ proficiency in public speaking, which is a skill likely to be an asset in students’ future careers.

**HIGH SCHOOL GRADUATION**  
Average Cohort Graduation Rates for Class of 2010



### Spotlight on Rogers New Technology High School



Rogers New Technology High School, which opened its doors in the fall of 2013, has the distinction of being Arkansas’ first stand-alone “New Tech” high school, which means that it is a district conversion charter school that draws its students from two already existing

high schools in the district (Rogers High School and Heritage High School).

This year, the school is serving 300 9<sup>th</sup>-10<sup>th</sup> grade students (150 per grade). Next year, it will serve about 450 9<sup>th</sup>-11<sup>th</sup> graders and the following year, it will serve about 600 9<sup>th</sup>-12<sup>th</sup> graders.

In our interview with principal Dr. Lance Arbuckle, his enthusiasm for the New Tech model was apparent. Here are some quick facts about Rogers New Technology High School:

- **Faculty:** All but one faculty member came from inside the Rogers district. The school has one Special Education teacher who uses an inclusion model. All teachers participated in extensive training provided by New Tech.
- **Extra-curricular activities:** Students may participate in extra-curricular activities at their high school of residence.
- **Two unique Career & Technical Education (CTE) programs:** Rogers New Tech High hosts 1) a mobile app development program and 2) a digital photography program.
- **Graduation requirements “above and beyond”:** In order to graduate, students must complete 2 out of 3 of the following requirements: 1) complete a semester-long course called Career Investigations in junior year and an internship in senior year 2) complete 6 college credits through NWACC or 3) complete a minimum of 25 community service hours.
- **The goal:** Arbuckle aspires for Rogers New Tech to become a National Showcase School for the New Tech Network, which no school in Arkansas has achieved yet.

## New Tech Challenges

One of the challenges identified by both schools are providing reassurance to parents, students, teachers and community members who have hesitation about using a model of non-traditional instruction. Change can be difficult, and some may be concerned that, as teachers navigate a new system, student learning could suffer. However, students and teachers in the Rogers district have all voluntarily chosen to be a part of the model, showing confidence in the approach. Another factor to consider is that both schools we interviewed have retained a very high number of previous faculty members. Both faculties are already familiar with the students and community, which will help aid their transition in being able to adapt the New Tech model in order to best serve their students.

Additional challenges have surfaced in relation to which sort of model a school is using. At Rogers, which is a stand-alone model, a challenge has been sharing resources between three high schools as opposed to the former two. For Lincoln, the whole-school conversion model has proven difficult at times, as some faculty members have felt that New Tech Network has not provided adequate support.

Furthermore, project-based learning is an adjustment for students, who may not be used to this approach. Jones has noted that some students become frustrated when they are not given explicit instructions, and that project-based learning has worked best in Lincoln's higher-level courses.

Team teaching in certain subjects, such as Art and Biology, has presented another challenge. Team teaching is new to many educators, and some have felt that they are not provided with adequate planning time.

New Tech's reliance on technology can also present a challenge. Blytheville, who implemented New Tech in 2013, noted that networking and broadband issues were worked out within a couple weeks of school starting.

However, a more persistent issue has been the concern of high school students having the maturity to care for a school-issued, laptop computer. One way Lincoln has handled this is that 10th-12th grade students are allowed to take their laptops home, but 8th-9th graders leave them at school unless they are working on a major project. Blytheville High School New Tech has implemented its own detailed plan to deal with the 400 new laptops that have been issued to their students. To deal with stolen computers, Blytheville instituted advanced

## Spotlight on Lincoln High School



As Lincoln High School nears the end of its third year of implementing the New Tech model, Courtney Jones concludes her first year as principal. Lincoln was among the first schools in Arkansas to implement the model, completing a whole school conversion of 8th-12th grades in 2011. Jones reported that this quick transition produced some growing pains. (In contrast, Rogers began their first year of implementation with two grades and some schools in Arkansas have even begun with one grade). At the time of Lincoln's implementation, the whole-school conversion model was New Tech's least used format. In 2010-11, only 10% of schools were whole-school conversions; 50% of schools used the shared campus or school-within-a-school model, and 40% used the stand-alone model.<sup>7</sup> However, by 2013, the use of each New Tech model is relatively even: 37% are whole school, 33% shared campus and 30% stand alone.<sup>5</sup>

Although Lincoln has seen success with some aspects of the New Tech model, Jones identified that Lincoln saw a large drop in their standardized test scores last year. This year, the faculty has chosen to step back from implementing some parts of the New Tech model. For example, direct instruction is used more frequently in some courses, along with less team teaching, as teachers continue to adapt to more student-centered instruction. Some quick facts about Lincoln:

- Lincoln is also a Teacher Advancement Program (TAP) school. TAP is focused on improving teacher quality by giving teachers opportunities to learn better teaching strategies and by holding them accountable. Jones believes that TAP and New Tech are a good combination.
- Lincoln has asked the New Tech Network to help them gather data on their seniors and provide a 5-year outlook on students' postsecondary outcomes.
- Lincoln High School has a stable faculty, with all teachers returning last year.

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security measures, including employing a tracking system on each machine. If one of Blytheville's MacBooks is stolen, the tracking device will take screen shots of what is happening on the device. Tech staff can also access the name on the wireless router being used and will notify the police if needed. Since August 2013, only five computers have been stolen, all of which were eventually recovered.

Blytheville also has a procedure in place in the event that computers are damaged. The first time damage occurs, students pay \$50 for the repair (students and parents agreed to this provision in the beginning of the year). After the first incident, each incident increases in costs until eventually a student is required to pay the full repair costs before he/she can have their computer returned, which is needed in order to do any of their assigned work. This system holds students accountable for their behavior and makes them responsible for their own learning. Overall, staff at Blytheville have been impressed with how well students have taken care of their computers.<sup>8</sup>

Lastly, Arbuckle noted that the name "New Tech" can be confusing for some, who assume that it is an abbreviation for "technical" instead of "technology." For this reason, Rogers chose to title their school "Rogers New Technology High School."

## Future of New Tech in Arkansas

The results of Arkansas' upcoming governor race could have an effect on New Tech since it was initiated through Governor Beebe's STEM Works Initiative, but it is unlikely that a new governor would completely eliminate the program. New Tech Network has an Arkansas-specific professional development event scheduled for the summer of 2014 at Arkadelphia High School. This event will focus on training related to project-based learning and will also train school personnel to administer New Tech's College Ready Assessments.

## Conclusion

The New Tech model is currently operating in fourteen schools in Arkansas, with varying levels of success and challenges. New Tech's national statistics are encouraging, but it is not yet clear if this has translated to Arkansas. Conceptually, the model is a great fit with the current focus on STEM education and college and career readiness, but it may take some time for schools to fully realize the potential benefits of New Tech, as administration and faculty work to adapt the model to best serve the needs of Arkansas students. New Tech calls its design "simply a blueprint" to help schools become successful. As each school's situation is different, it is local leadership and flexibility that will lead to long-term success.

## References

- <sup>1</sup> Schools. New Tech Network. Retrieved from <http://www.newtechnetwork.org/schools>
- <sup>2</sup> Our Story. New Tech Network. Retrieved from <http://www.newtechnetwork.org/about/our-story>
- <sup>3</sup> Stem Works. Arkansas Department of Education. Retrieved from <http://www.arkansased.org/divisions/policy/stem-works>
- <sup>4</sup> Project Based Learning (PBL): A dynamic approach to teaching and learning. Ashland Elementary Charter School. Retrieved from <http://www.ashlandelementarycharter.com/project-based-learning.html>
- <sup>5</sup> New Tech Network Student Outcomes Report 2013. Retrieved from: [http://www.newtechnetwork.org/sites/default/files/news/2013\\_annual\\_data\\_v14-01.pdf](http://www.newtechnetwork.org/sites/default/files/news/2013_annual_data_v14-01.pdf)
- <sup>6</sup> America's Most Challenging High Schools: South Region. *Washington Post*. Retrieved from <http://apps.washingtonpost.com/local/highschoolchallenge/schools/2014/list/south-schools/>
- <sup>7</sup> New Tech Network Learning Outcomes 2010-11. Retrieved from: [http://www.newtechnetwork.org/sites/default/files/ntn\\_resultsdocx.pdf](http://www.newtechnetwork.org/sites/default/files/ntn_resultsdocx.pdf)
- <sup>8</sup> Pinkard, C. (2014, April 6). BHS New Tech students being responsible with issued computers. *Courier News*. Retrieved from <http://www.couriernews.net/story/2067508.html>