

**Manor New Technology High School  
Manor Independent School District  
Manor, Texas**

**[www.manorisd.net/newtech](http://www.manorisd.net/newtech)**

**Profile for Learning Tour conducted on  
Tuesday, March 25, 2008**

**Thumbnail sketch**

Manor New Technology High School in Manor, Texas, offers students hands-on, collaborative learning in a small community school. It is one of the official T-STEM Academies ([www.thsp.org/initiatives/t\\_stem](http://www.thsp.org/initiatives/t_stem)) of the Texas High School Project ([www.thsp.org](http://www.thsp.org)).

The student-to-computer ratio is one-to-one, which enables creative presentations, research, and communication. Students apply their knowledge through team projects, modeling real-life work situations, job assignments, internships, peer reviews, and connections to community, college, and career experiences. They are free to express creativity, knowledge, skills, and initiative. Collaboration among administrators, teachers, and students is core to the culture of the school. Principal Steven Zipkes noted that “everyone in the school has a leadership role.”

Manor, Texas, is located just outside the Austin city limits on U.S. Highway 290 East, about 12 miles east of the University of Texas campus. The Manor community has become a hub for the central Texas technology industry, with industry giants such as Applied Materials and Samsung listed on their tax rolls. Manor was a small rural town with a population of about 1,200 in the 2000 U.S. Census. It is now a quickly growing community: the Greater Manor Chamber of Commerce reports that December 2006 estimates put the town’s population at 5,468.

Since 2003, the Manor Independent School District (MISD) has also experienced explosive growth. Its students live variously in Manor, in the rural community surrounding Manor, and within the city limits of Austin. The student enrollment of MISD for 2007–08 is 5,878.

Manor New Technology High School is in its first year in Manor ISD. The school launched with 156 ninth and tenth-graders; its population is 47% Latino, 1% Asian, 24% African American, and 28% Caucasian and Other. In addition, 54% of the students are eligible for the National School Lunch Program (free and reduced-price lunch), 8% are in special education, and 5% are English language learners. For the 2008–09 school year, Manor New Technology High School plans to admit a total of 250 students in 9th through 11th grade.

**Why we visited**

We scheduled our learning tour to Manor New Technology High School to give participants an opportunity to learn more about a school that is partnering with the New Technology Foundation ([www.newtechfoundation.org](http://www.newtechfoundation.org)) and using its New Technology High School model. The visit also

provided an opportunity to observe a school with a project-based-learning ([www.manorisd.net/newtech/pbl.html](http://www.manorisd.net/newtech/pbl.html)) focus supported by technology.

## What we learned

1. Culture — The administration said “the first lesson [we] learned was that the school culture had to be established early for the school to be successful.” Their initial efforts focused on establishing the culture that would define the school. In our learning tour, school culture stood out as the most obvious element. All parties we spoke with (and we had unprecedented access) were proud to be part of the school — from the custodial staff, to the students, the teachers and the administrators. Students and teachers we spoke with could clearly articulate what the school was about, what it meant to be a member of the school community, and how the culture of the school supported teaching and learning.

The principal, counselor, teachers, and students have done a wonderful job establishing a culture that revolves around the schoolwide learning outcomes. These learning outcomes are designed to generate a rigorous academic atmosphere throughout the school that incorporates college-readiness skills ([www.manorisd.net/newtech/LearningOutcomes.ppt](http://www.manorisd.net/newtech/LearningOutcomes.ppt)). The administrators and teachers serve as facilitators and have done an excellent job in establishing a collaborative environment. Project-based learning is evident in all the classrooms we observed, though both the teachers and the administrators admit that some concepts require a “stop and teach” approach, while the rest can easily be embedded into projects. The teachers call these “stop and teach” moments “workshops” and typically will host a “workshop” for the student group leader, who then goes back and teaches the rest of his or her group the material as they work together to complete their projects. One of our learning tour team members described this approach as “unique and innovative.”

The students at Manor New Technology High School are empowered to take responsibility for their behavior and their learning in the context of the school culture. It is obvious from observing and listening that everyone knows what is expected of the school’s students and teachers. Both students and teachers enforce the behavioral expectations of the school. Students who were involved in recruiting the next freshman class questioned, “How can we make sure that these freshmen know what is expected here and don’t mess it up for all of us?”

The culture also stresses students taking responsibility for their own learning. Recently, when students learned their science teacher would be at the school on a Saturday morning, almost all the students in the class found transportation to get to school to work on their projects. The teacher had to “run them out of the school” when it was time to go.

2. Science — We visited two Biology classrooms. Both classes were doing a lab on testing the hardness/softness of a water sample and identifying sediments, minerals, and so on that they found in it. Throughout the duration of our visits to their classrooms, it appeared that all students were actively engaged and working cooperatively. One member of our visiting team related,

“I was very impressed with a discussion that one of the classes was engaged in. A student pointed out that Manor water is very metallic in taste, and she asked why that is. Another student commented that it was probably because it is so hard. The teacher prompted the students with the question, ‘Why is the water hard?’ Yet another student chimed in to respond that it is because the water travels through limestone and picks up metals and minerals, which produces the metallic taste to the water and the hardness. I loved that they tied the lab to something that was real and directly impacts them!”

The students that escorted us on our tour told us about their physics class, which, they explained, also integrated Algebra II. They said they enjoyed the class because they were able to better understand the physics knowing the math and they better understood the math because they applied it to the physics. They liked the STEM focus, integrating the classes and seeing the obvious connections between mathematics and science.

3. Technology — In the experience of the learning tour participants, who have visited many schools over our decades in education, it is unusual to see, as we did at Manor New Technology High School, the seamless use of technology in all subject areas. We observed students working in small groups and individually, researching topics either of their own choosing or within their project teams — and with or without help from their teachers. It was as if the technology had become as much a part of the classroom as pencils and books. The students said they felt confident using everything from specialized programs to interactive whiteboards for their projects and presentations. They had just finished a biology project in which they wrote songs covering different topics so that other students and parents could view them via the internet to use as study guides ([youtube.com/user/ManorNewTechHigh](https://www.youtube.com/user/ManorNewTechHigh)).

At Manor New Technology High School, computers are available to every student in every class through laptop carts and desktop computers. Interactive whiteboards, projectors, and other technology are readily available to students and teachers in every classroom. A central media room is available for students and teachers to use in presenting to small and large groups. The songs mentioned above were presented to the whole student body in this room.

4. Engineering — The student tour guides pointed out that every student at the high school must take two years of engineering in place of traditional electives. One of the members of the learning tour team noted that “The engineering design class was quite impressive!” The student guides pointed out that at the beginning of the school year, one of their projects was to design a castle. The project tied into the topic that they were studying in World GeoLit (World Geography/World Literature): the Renaissance. As an added bonus to the unit, the students took a field trip to a Renaissance festival and were required to gather additional information from the period to use as part of their final designs. One learning tour team member noted appreciatively that this was “Too fun!”
5. Mathematics — We visited a Geometry class, where the students were sitting around a round table involved in a workshop discussing Texas Assessment of Knowledge and

Skills (TAKS) problems. The teacher was leading a discussion regarding the slope-intercept form of lines and how to graph them. All the students were engaged in the discussion. We also found out that they had just completed a project drawing of a scale model of a building and were preparing for a new project on nets. The students shared their feeling that the application of the mathematics to real-life projects made the lessons more meaningful to them.

6. Integration/ collaboration — We observed students working in teams on collaborative projects that follow a business professional model. Students were quick to point out that they establish group norms each time they begin a project. The norms outline each participant's role and responsibilities, and the teams engage in a structured process that can result in the "firing" of a team member who does not do their part of the work. Those who are fired must leave the work they have done with their team and complete the work on their own. The projects are reviewed by all the teachers and the administration. Projects are also presented to panels of community experts. These projects are kept in digital portfolios throughout the students' entire high school career.

All the teachers meet on Monday mornings from 8:00 to 10:30 to review best practices, showcase technology tips, and to explore integrated cross-curricular projects that are aligned to the state standards (the Texas Essential Knowledge and Skills, or TEKS) ([www.tea.state.tx.us/teks](http://www.tea.state.tx.us/teks)) and their local scope and sequence documents. On those days, students do not arrive at school until 10:30am. Almost all the teachers coteach across two subject areas. For example, the following pairs of courses are taught in the same classroom: Algebra I and Integrated Physics and Chemistry, Algebra II and Physics, World Geography and World Literature, and so on. A member of the learning tour team noted, "It is very impressive to see the crosscurricular ties built into very interesting, very relevant projects. The teachers are truly coteaching...assuming equal roles and responsibilities and integrating their [subject's] TEKS into the projects and instruction."

## **Who is Manor New Technology High School?**

### *Students:*

Students at Manor New Technology High School are actively engaged in the school. They lead the learning tours and explain both teacher motivations and student activities. The student tour leaders came from a cross-section of the student body and were able to express very clearly their thoughts and feelings about the school and their learning. They articulated the significant differences between this school and the traditional schools they had attended previously. One of our guides shared that he "sat in the back of the room and was passive and bored in my old school," and continued, "Here, I am excited about the projects, engaged in teamwork with my peers, and responsible for my own learning."

The student tour guides spoke of how they felt very shy at the beginning of the school year — but that after completing so many projects and working with so many groups, they have come out of their shells and have developed strong skills in delivering presentations and

communicating effectively. The students walk and talk with confidence. They are self-motivated, self-directed learners.

We were encouraged to question the students in class to get a better understanding of how the school operates. Students were engaged in various activities: working independently, attending group workshops, and sitting at computers researching projects — either in groups or individually. The students were focused, curious, and reflective. They were discussing the concepts and skills with their peers as well as with their teachers.

#### *Teachers:*

Manor New Technology High School has 14 teachers plus one master teacher, a counselor, and the principal. Everyone on the staff has either dual or composite certification. Over half the staff members have advanced degrees. Of the teachers, five are brand-new graduates of the UTeach ([uteach.utexas.edu](http://uteach.utexas.edu)) program at The University of Texas at Austin. All the teachers are open, flexible, and creative. They were recruited for their passion for teaching and learning. They have all embraced the school's project-based approach to teaching and learning and have, under the leadership of the master teacher, worked collaboratively to implement it.

One of the most striking differences we saw at Manor New Technology High School was that the teachers were not spending a great deal of time dealing with discipline issues. We observed teachers conducting whole-class workshops with intently attentive students. We saw teachers helping students do project work, either in small groups or individually.

#### *Administrators:*

The principal is an innovative leader who is extremely proud of the school. He wanted us to hear about the school first from the students, then from the teachers, and finally, from him and the master teacher. When we asked for the biggest surprise and the biggest disappointment, the principal and master teacher had to struggle to think of a disappointment. What surprised them, on the other hand, was how quickly the students started to work together to complete their projects, and how quickly the teachers bought into the idea of project-based learning and worked together to develop the projects. This school is all about collaborating and learning from their experiences.

#### *Business and the community:*

One of the tour participants remarked, "I arrived early and had an hour to spend in Manor. I went to the gas station and [then to] the local Sonic for lunch. I was happy to see that the demographics of the school seemed to match my unscientific observations of the community. When I heard the ethnic makeup of the school, I was happy to hear it did match the surrounding community and other high school."

The business community actively participates in the school. Community members are frequently called on to participate in panel reviews of student projects. The school is open to parents, and other members of the community are encouraged to visit at any time.

The principal did express some frustration with a misconception in the community that Manor New Technology High School is only for the “smart/gifted” students. Personalized invitations/applications are created and mailed out to every Manor ISD eighth-grade student. The school serves a cross-section of students from the community that is very comparable to the population of a traditional high school. Manor New Technology High School actively collaborates with Manor’s traditional high school so that all students in the community have access to what is learned about improving teaching and learning.

*Funding sources:*

Major local technology companies contribute significantly to the school’s funding and support (see information about partners ([www.manorisd.net/newtech/partners.html](http://www.manorisd.net/newtech/partners.html)) on the school’s website).

*Other details:*

Students at Manor New Technology High School must complete 12 college credit hours by graduation. The college credit hours will be offered through dual enrollment with a local institution of higher education. Six credits of science and five credits of mathematics total are required for graduation. The school runs on a trimester system to facilitate student course completion and credit accumulation. To graduate, the students must also complete 50 hours of community service and a senior internship. Parents are required to complete 10 hours of school service each year through a variety of options that are flexible to meet varying family situations.

The school has a 97% attendance rate (in contrast to the overall state average attendance rate of 95%) and has shown marked and continuous improvement on the district benchmark assessment tests. One member of our visiting team reflected, “I look forward to seeing the data comparison of student achievement from last year to this year. I expect the data to reveal significant gains in math and science. There are great things going on at Manor New Tech High!”

**For further reading**

See also the description of Manor New Technology High School — including videos — on the Texas High School Project website ([thsp.org/cms/One.aspx?portalId=274785&pageId=329867](http://thsp.org/cms/One.aspx?portalId=274785&pageId=329867)).

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