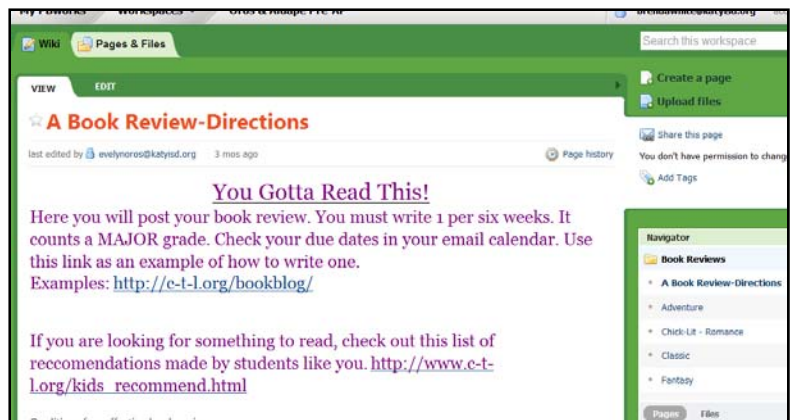


# KATY Use of Technology in the School Environment

Utilization of Web 2.0 tools in Katy ISD exploded during the 2009-2010 school year, and continues to expand during this school year. This utilization is not just in the classroom but is district wide, even at the superintendant level. Teachers are continually sending in testimonials about how engaged their students are using these tools. Our district has WIFI in all classrooms and campuses throughout the district, allowing students to use wireless laptops as well as conventional wired computers for projects. Standards for equipment are set so that that at each campus, there will be a variety of access available. All campuses have wired computers in each classroom, multiple wired computer labs, and wireless laptop carts available for checkout and use throughout the campus. Through the access teachers and students have, and the identification of tools that are appropriate (and for which our teachers have received training and continued support) Katy ISD students are able to use a wide variety of collaborative tools not just within technology-specific classes and lessons, but also within the structure of their core curricula classes.

Several junior high teachers established a language arts wiki. Students were invited to this site to view instructional resources, collaborate on books, create class word walls, and post final projects created using tools such as Voicethread and Glogster. Teachers report participation has increased and students are excited about reading and writing. When these groups of students were tested on benchmark tests their scores increased by dramatically over the past year.

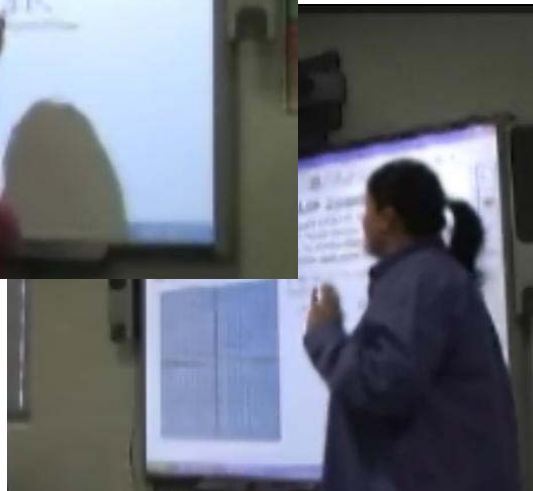
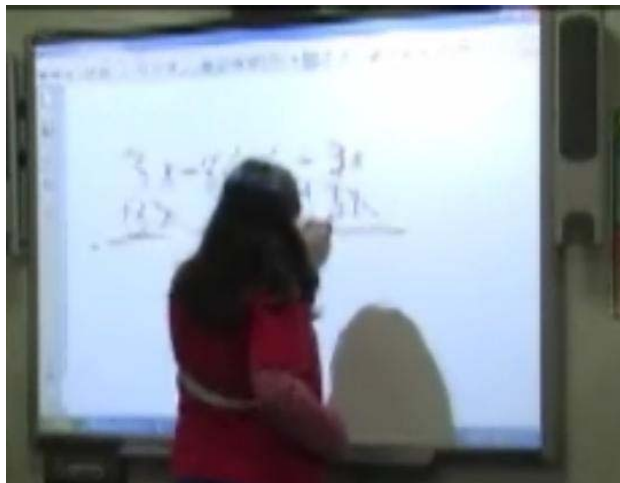


The screenshot shows a Glogster EDU page titled "Math Problem of the Week". It features a central image of a brain filled with math symbols and a list of weekly problems. The main text asks, "Can you solve our Problem of the Week? Click on the link below to give it a try. Use the Understand → Plan → Do → Check problem solving model and submit your best solution to your teacher. You might see your work featured on our Problem Solving bulletin board!". Below this, there is a detailed math problem: "THE SITUATION Kenneth has been saving money to buy a bicycle. He has \$24 in his savings account. He has half as much in his checking account as in his savings account. He also has \$38 in cash. Kenneth bought a bike that cost \$59. How much money does Kenneth have left?". To the right, there is a "Watch Popcorn" section with instructions: "UNDERSTAND Read through the situation and write a good answer statement that matches the question. Don't ignore sentences just because you don't see a number. Picture the story in your mind and don't focus just on the numbers you see." At the bottom, there is a "CHECK" section: "Can you explain the math you did? Does your answer make sense in your situation?"

Glogster EDU is used to post a math problem of the week at some campuses. The glog consists of a word problem with strategies to help students understand the necessary steps to solve the problem. Students are encouraged to work this problem, and then submit their answers for a chance to win popcorn for their class.

Students across the district use Glogster EDU as a product of their learning.

More and more of our teachers acknowledge the need to use web tools to instruct and are offering students a choice in how they present their learning. Some students still may choose to write an essay but, when given a choice, many students prefer to use one of the web tools they have learned to use this year. By meeting the digital learner where they are most comfortable teachers are able to keep student interested and engaged in their learning.



Smart Boards and Airliners have also dramatically changed the way teachers teach. Our adoption has been so successful that Katy ISD was asked to host the regional Smart User Conference and to showcase our master teachers using Smart technology.

Teachers report increased student engagement and an increase in actual scores when using interactive lessons with their students. Here is an example of data reported by one of our high school teachers who uses SMART boards as a method of lesson delivery:

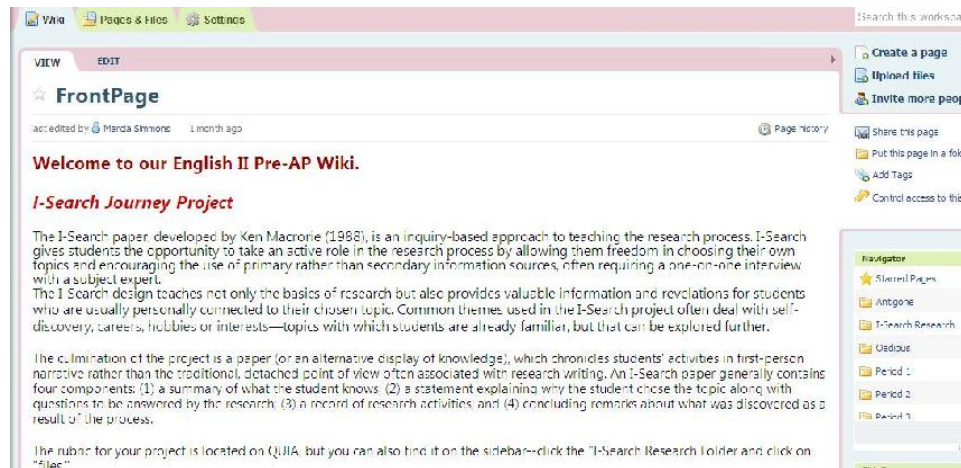
Smart Board Data Comparison  
 Pretest – Benchmark given January 31  
 Posttest– TAKS April 2007

Students	Benchmark	TAKS April 2007
Passed	49.5%	74.3%
Failed	50.5%	24.7%

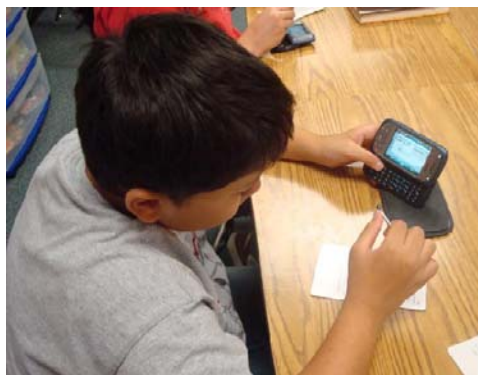
Here are actual comments from Katy ISD on the strengths of using interactive boards with their students:

- Students are far more focused, attentive, interested & are willing to participate more ... easy to access photos, websites, interactive pieces to incorporate in lessons, etc.
- Captures the interests of students & enhances delivery of Algebra concepts ... easy to use with internet sites & provide real world examples, etc.
- Interactive textbook can be accessed ... student engagement ... color video & sound make lesson motivating ... can visualize steps to solve problems, etc.
- Large screen & ability to use multiple colors & tools make it engaging for students
- Visual clarity for learners ... clean ... graphics for ease in creation ... students easy to engage
- Easier for students to see ... fun & gets students interests ... easy web access
- Very interactive ... students pay attention better ... easy to use ... easier to read than overhead ... great with graphing calculator & Geometer's Sketchpad, etc.
- Kept students engaged ... could do a lot more interactive activities with students than w/overhead ... could use different colors for different shapes, etc.
- Students love using it ... reduces number of copies/transparencies being made ... appeals to a variety of learning and teaching styles
- Great with CPS & for guiding instruction
- Colorful, animated & can show United Streaming movies ... easy to see
- Hands on for the students ... Visual Learning
- It has made teaching the Title I kids easier because they are so enthusiastic about participating ... likes the interactive tools ... encourages creativity
- Highly interactive ... easy to use by students & teachers ... Much easier for students to read than overhead ... Great manipulatives
- Resources at your fingertips ... has positive effect on class environment ... great visual & sound effects ... student/teacher relationship stronger, etc.
- Easy to use ... student centered ... interactive ... very engaging ... group activities ... peer teaching ... ease of presenting/learning activities ... helps students learn

At a junior high campus, the language arts department decided to go “paperless” as much as possible with their students. They are using wikis to present lessons, for student projects, and as a basis for communication between teachers and students and student to student. They make use of the wireless laptop carts within the classes, and students can use their own computers from home to complete assignments. Engagement of the students is reported by the teachers involved, and there is more interaction between the teachers in planning and delivering the content this way. This campus has also seen significant increases in scores on Benchmark Tests for the classes that are using paper more of the online tools.



A mobile learning device pilot with all fifth graders at one of our elementary campuses was an incredible success. Each student received a device, which is basically a cell phone without calling or texting capabilities. The pilot used an application called “GoKnow” to send lessons to the students and for students to upload assignments to the teachers. Students had Internet access through our WIFI at school, and through a partnership with Verizon, could connect to the Verizon network from home.



All WIFI in the mobile learning pilot was filtered for CIPA compliance. The engagement of students has been remarkable. We have received testimonials from the 5th grade teachers involved in the pilot about the effect that the handheld mobile devices have had on special education students, in increasing creativity, in reducing disciplinary issues, and in promoting increased student attendance. Early results of Benchmark Testing showed a significant increase in scores for science and math when compared with the scores of the fifth graders from the previous school year. Because of the success of the pilot, the program is being expanded to fifth graders at ten more elementaries from the 2010-2011 school year.

For the handheld mobile learning pilot, the Katy ISD IT Department worked with cell companies to establish CIPA compliant connectivity. The Department is also working with CISCO to establish public WIFI connectivity at every facility, allowing anyone to bring any device to any Katy ISD facility and have CIPA compliant access to the Internet. When the public WIFI is in place, all students will be able to bring their own laptops and other Internet capable devices with them to school and connect to web-based applications and the Internet, but still within a safe and secure environment. The IT Department is also working with E-Rate to change current policies regarding mobile learning devices with the hope that this funding could be used to allow purchase of equipment that could be used not just at school, but also taken home with the student for use outside of school hours.

The leadership of the Katy ISD IT Department is often asked to speak to groups throughout the state of Texas and to national groups. In addition, the technology department makes presentations to the Board of Education each year so that they are more aware of equipment and tools that our students are using in the classroom. Another group that we have annual presentations with is the Leadership Katy ISD group, made up of Katy community and business leaders. Because of the team focus that IT takes, and our emphasis on placing the tools in the hands of our students and staff, Katy ISD is looked to as a model for many educational organizations.

The Katy ISD community has passed several bond issues, which have funded much of the technology infrastructure initiatives. Bonds have also help place standard technology equipment in all classrooms within the district. To emphasize how important their support is to our district, campuses throughout the district sponsor technology open houses for parents to see first-hand the activities that their students are accomplishing through the use of technology. In addition to this, a district-wide technology showcase is hosted each year in our multi-purpose arena. This showcase allows the community to see what is happening with technology not just on their child's campus but at all levels within Katy ISD. Without the support of the Katy community, much of the success the IT Department has realized would not be possible. We continue to reach out to our community members to provide them information regarding the technology innovations that they have helped make possible.