

# Teachers Talk Tech<sup>®</sup> 2006

*Fulfilling Technology's Promise  
of Improved Student Performance*

**UNDER EMBARGO UNTIL**

**JUNE 26, 8:00 A.M.**



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# Mission and Focus



- CDW•G employed QED to conduct the fourth annual in-depth research study into what K-12 teachers are saying about technology in the classroom. Quantifiable teacher input helps parents and administrators understand the importance of technology investments. Teachers are often in the best position to see the true impact of technology on learning and know what it can and cannot do. Thus, feedback from classroom educators can be essential in helping communities make academic and technological choices that are in the best long-term interests of students and schools.
- Specific objectives of this study were to:
  - Learn how K-12 teachers use computers in their jobs
  - Evaluate technology's role and efficacy in education
  - Give K-12 teachers a voice regarding the use of computers in schools
  - Assess the effectiveness of computers in preparing students for the 21<sup>st</sup> century work environment

# Key Findings for 2006

## *Fulfilling the Promise of Improved Student Performance*



- Technology is beginning to deliver on the promise – positively impacting student performance
  - Technology is bridging the gap between 21<sup>st</sup> century skills and core curricula (21<sup>st</sup> century skills cannot guarantee student success if students can't read, write, comprehend and calculate)
  - The teaching process is fundamentally changing as teachers move from learning how computers work to using technology to change how they teach, culminating in transforming how students learn
  - Teachers believe technology is increasingly influencing the teaching of thinking and learning skills to develop lifelong learners
  - Teachers view technology as an effective tool for teaching, as well as for administration, communication and research functions
  - Education is today where business was 20 years ago – on the cusp of radically transforming the learning environment

### **Teachers Say**

“Technology is intricately woven into what I am trying to teach and the more these kids recognize that technology is a vital tool, and not just something to play games, the further they are going to get and the better off they are going to be.”

— *Carver Middle School*

All quotes from Teachers Talk Tech® 2006 one-on-one interviews

# 21<sup>st</sup> Century Skills



- Teachers Talk Tech<sup>®</sup> 2006 defines 21<sup>st</sup> century skills using the Partnership for 21<sup>st</sup> Century Skills' "Results that Matter: 21<sup>st</sup> Century Skills and High School Reform" report
- 21<sup>st</sup> century skills include:
  - Critical-thinking and problem-solving
  - Communication
  - Creativity and innovation
  - Collaboration
  - Contextual learning
  - Information and media literacy

# Teachers Say

*A view from the teacher's desk*



- In addition to surveying over 1,000 teachers for Teachers Talk Tech® 2006, QED also conducted one-on-one in-depth interviews with teachers to understand how technology is being used in education

**Mare Chitko**, Teacher, Tablet Program Coordinator  
Academy of the Holy Angels, Demarest, NJ

**Debra Resch**, Teacher  
Community Middle School, Plainsborough, NJ

**Susan Lindenfesler**, 3<sup>rd</sup> Grade Teacher  
Jefferson School, Pekin, IL

**Russell Sadberry**, Teacher  
Katy High School, Katy, TX

**BJ Powell**, Department Chair, Career & Technology Education  
Del Valle High School, El Paso, TX

**Mary Yeun**, 1<sup>st</sup> Grade Teacher  
Cabello Elementary School, Union City, CA

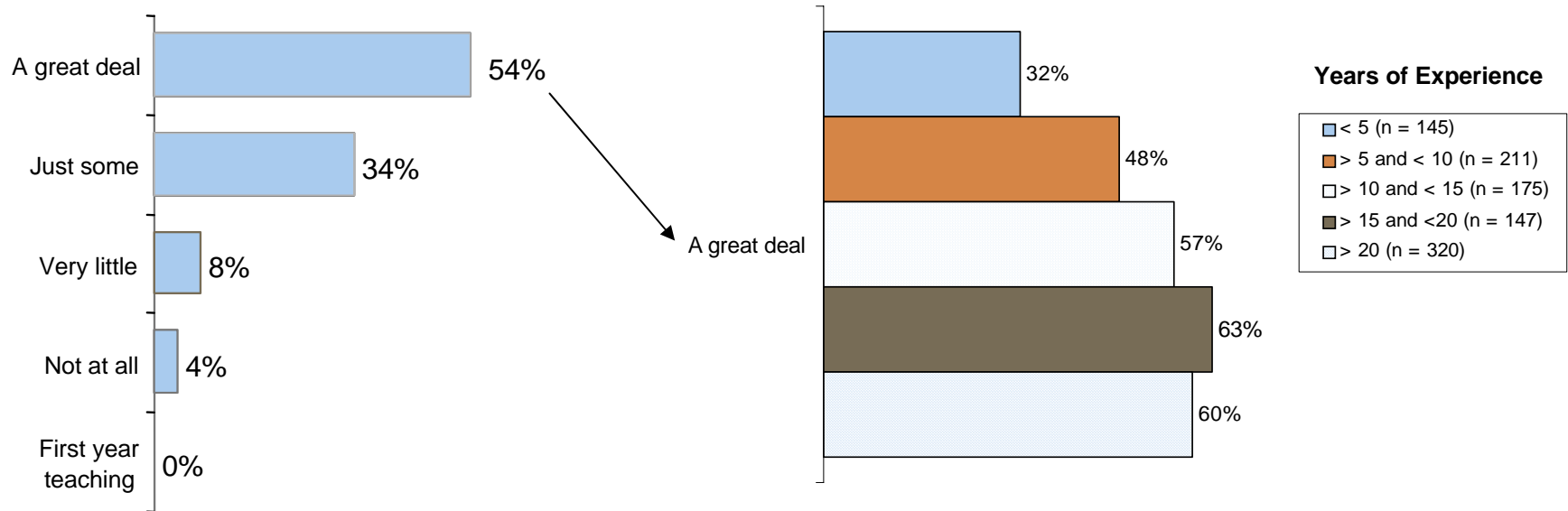
**Paula Jones**, 7<sup>th</sup> Grade Teacher  
Carver Middle School, Leesburg, FL

# Technology as a Teacher's Tool

*Technology has a profound impact on teaching*



- In the last three years, teachers have increasingly reported that technology has changed the way they teach “a great deal” (40 percent, 2004; 56 percent, 2005; 54 percent, 2006), an indication that technology is being used and embraced in the classroom
- The majority of teachers (54 percent) report that technology is having a profound impact on the classroom and how they teach; the majority of teachers with over 10 years of classroom experience feel the change most



Veteran teachers have seen technology change the process of teaching, while younger teachers have always had some link to technology. The new goal is to have technology as common as pencils and paper. The new measure is to have technology viewed as irreplaceable, but not revolutionary.

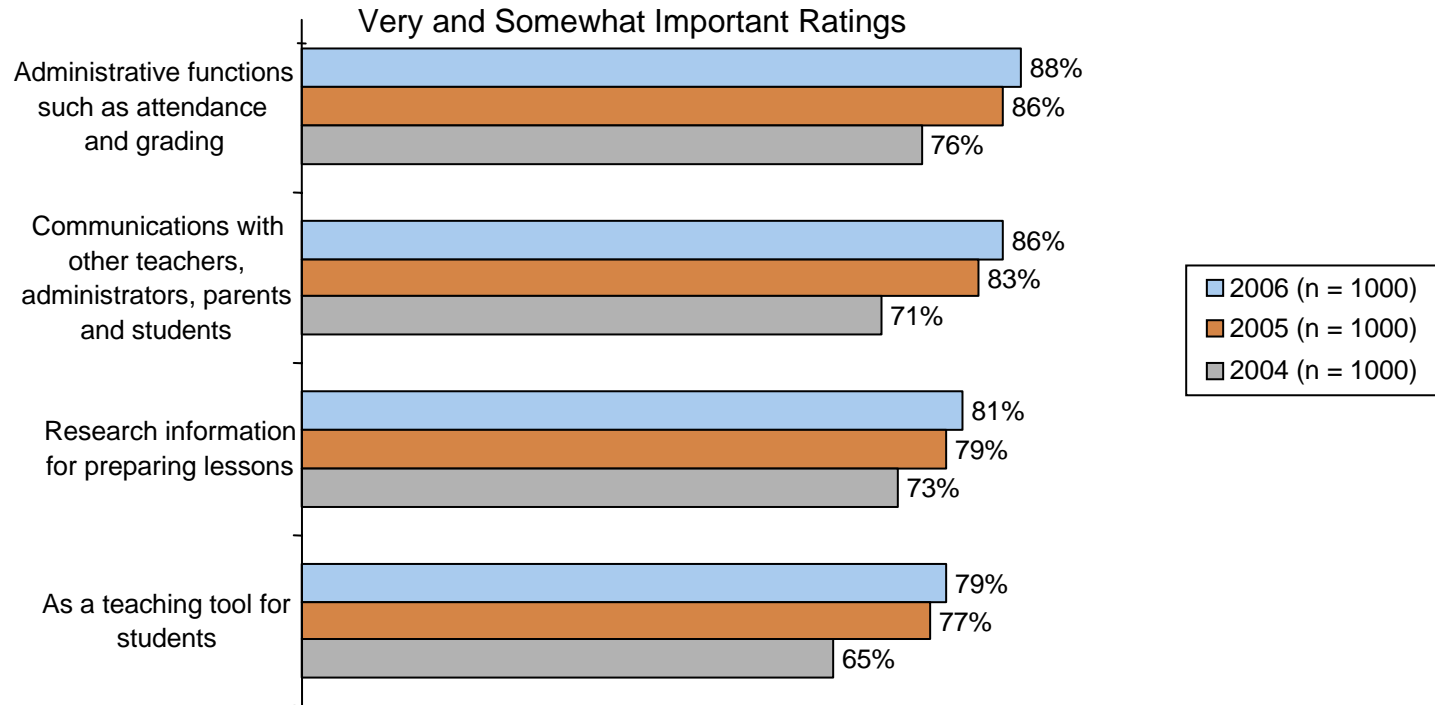
Q1. Since you began teaching, has computer technology changed the way you teach?

# Technology as a Teacher's Tool

Teachers increasingly say computers are critical to their jobs



- Computers are an increasingly essential job tool for teachers. Four out of five teachers believe technology is very or somewhat important to teaching, especially for administrative functions (88 percent) and communications with others (86 percent)



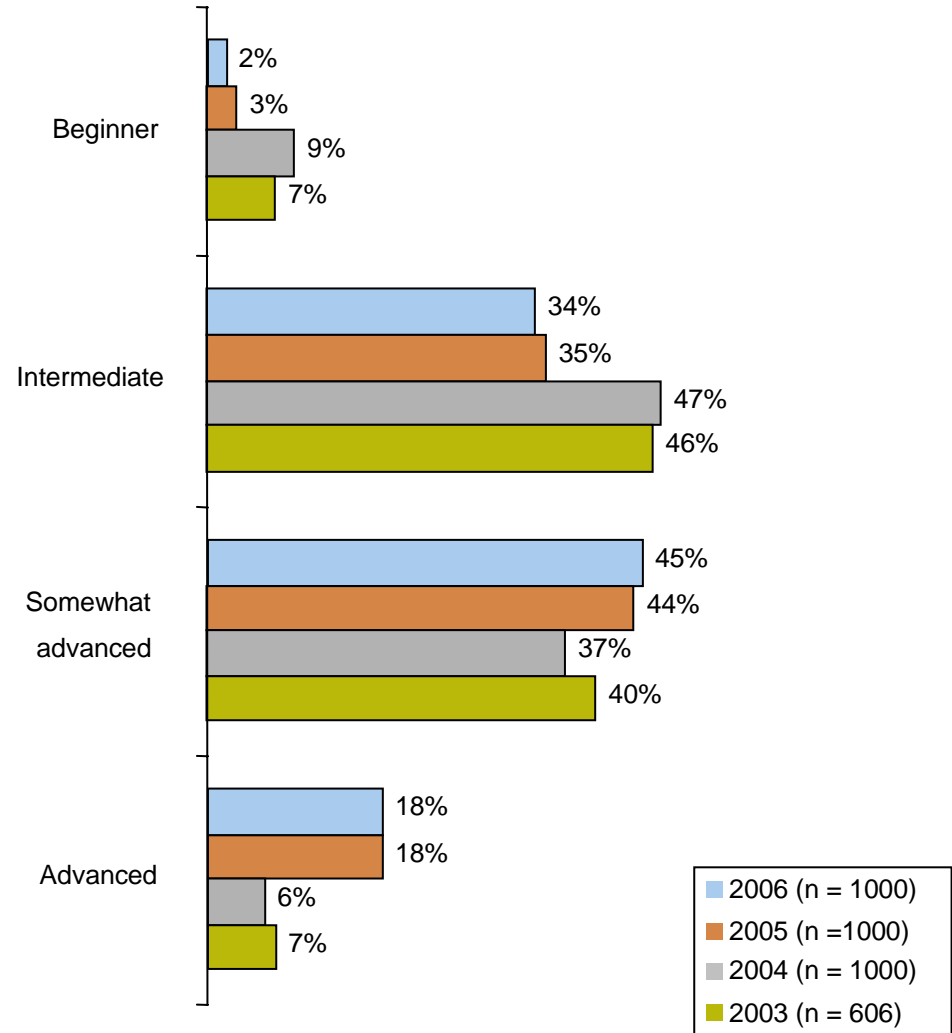
Q) Rate the importance of computer technology for you personally in each of the following-teacher related functions

# Technology as a Teacher's Tool

*Teachers' computer skills improve year after year*



- Teachers continue to become more skilled at using computers, with almost two-thirds (63 percent) characterizing their computer and classroom technology skills as somewhat advanced and advanced
- In 2006, just 2 percent of teachers considered themselves to be beginners, compared to 7 percent in 2003



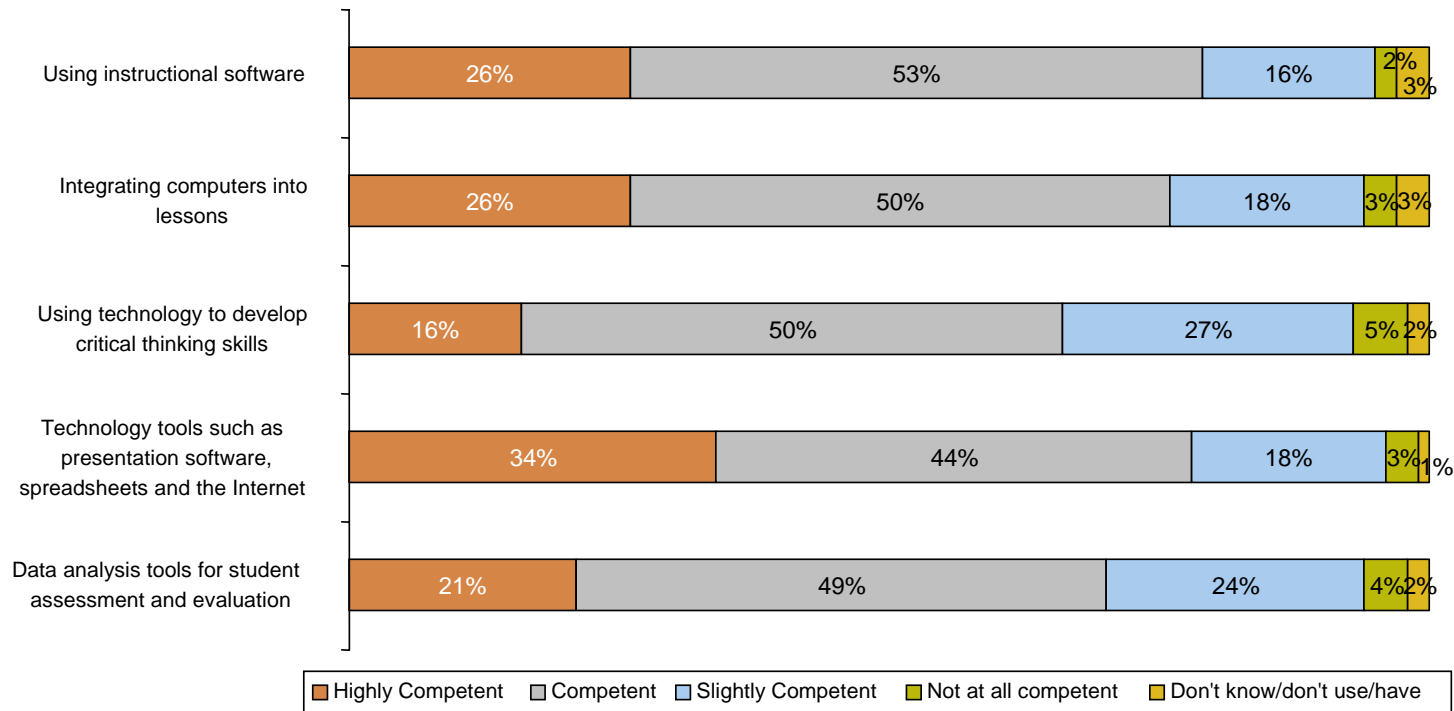
Q) How would you describe your skill set with computers and other classroom technology?

# Technology as a Teacher's Tool

*Better technology skills translate into better use of instructional tools*



- In most areas, approximately three-quarters of teachers consider themselves highly competent or competent using technology as an instructional tool
- Using technology to develop critical thinking skills and using data analysis tools for student assessment are key to student success, but fewer teachers feel highly competent in these areas



Data analysis tools give teachers, parents and administrators an almost-instant picture of where students are and how to adjust for improvement, a key No Child Left Behind (NCLB) requirement. Without technology it would be impossible to meet the requirements of NCLB.

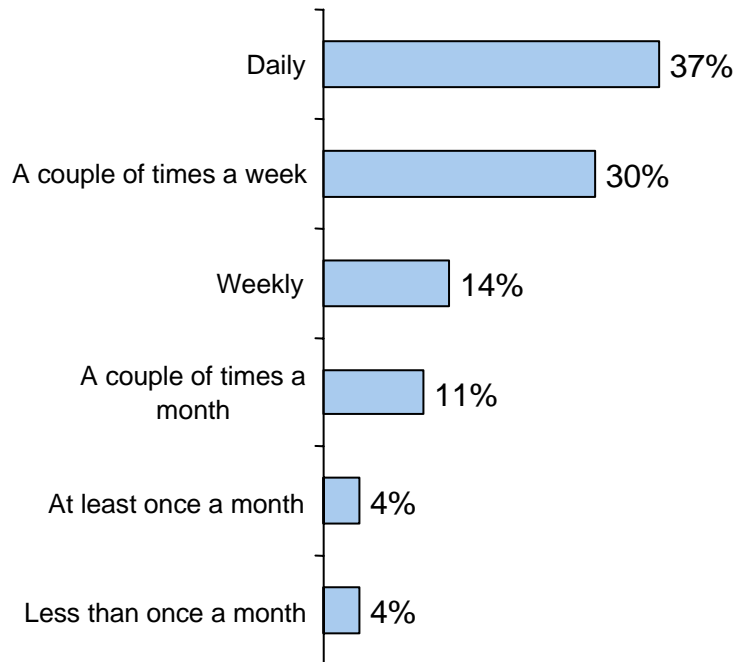
Q) Please rate your level of competency in the following areas

# Technology as a Teaching Tool

*Technology is reaching more students in the school day*



- Two-thirds of teachers (67 percent) integrate technology into their classroom instruction at least a couple of times a week; 37 percent integrate it on a daily basis
- As expected, daily use of technology is more common at the elementary level (44 percent) than at the middle (33 percent) or high school (34 percent) level
- The room where students use technology differs by grade level, with elementary school students using computers more often in the classroom and middle and high school students using computers in the media center or computer lab



## Teachers Say

“We use technology in every subject, but not necessarily every day. I use it every day for math, the other areas depend on what I can find to go with what we are doing.”

— Jefferson School

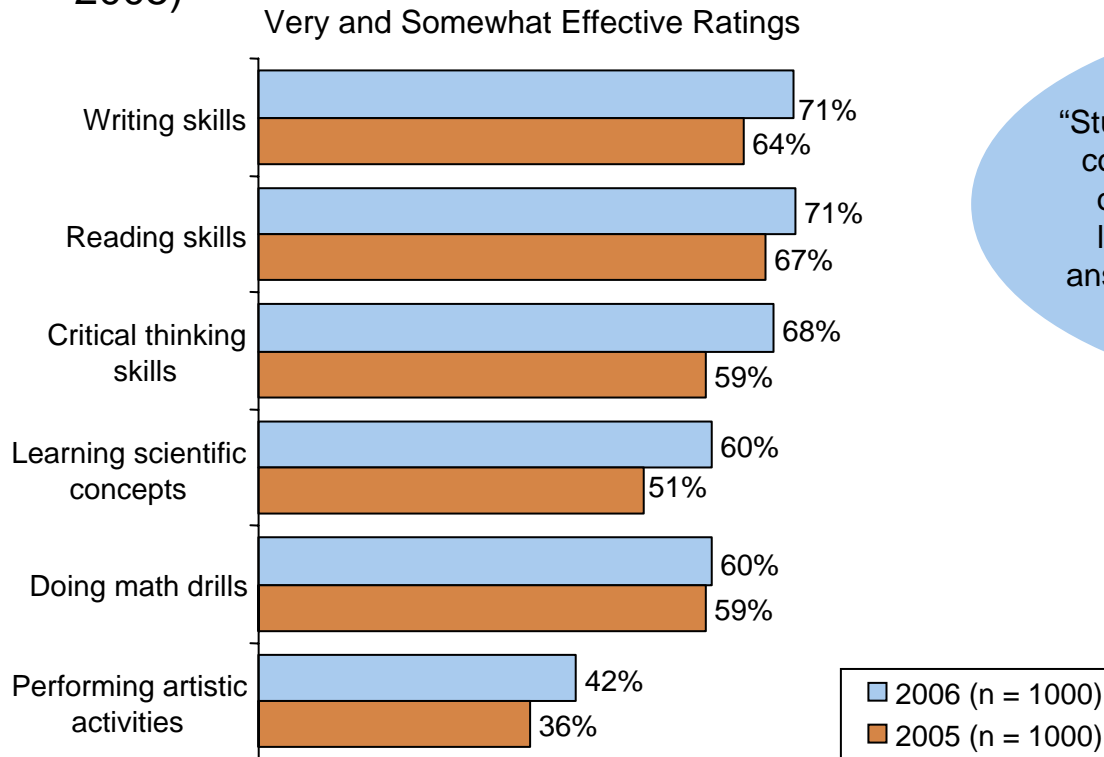
Q) On average, how frequently do you integrate technology into your instruction?

# Technology as a Teaching Tool

Technology is increasingly impacting the core curriculum



- While computer use in all learning areas has increased, teachers have moved beyond using computers simply for teaching basic skills and rote learning, increasingly including technology to teach critical thinking skills (68 percent in 2006 vs. 59 percent in 2005) and scientific concepts (60 percent in 2006 vs. 51 percent in 2005)



## Teachers Say

“Students should be able to analyze and use cognitive thinking skills and apply them to other situations. It is not all about book learning. They need to learn not just to answer a question directly, but they need to learn how to think a problem through.”

— Carver Middle School

Teachers now have an understanding of the broad use of technology across disciplines. Technology is bridging the gap between simply learning technology skills and using technology to improve core curricula skills

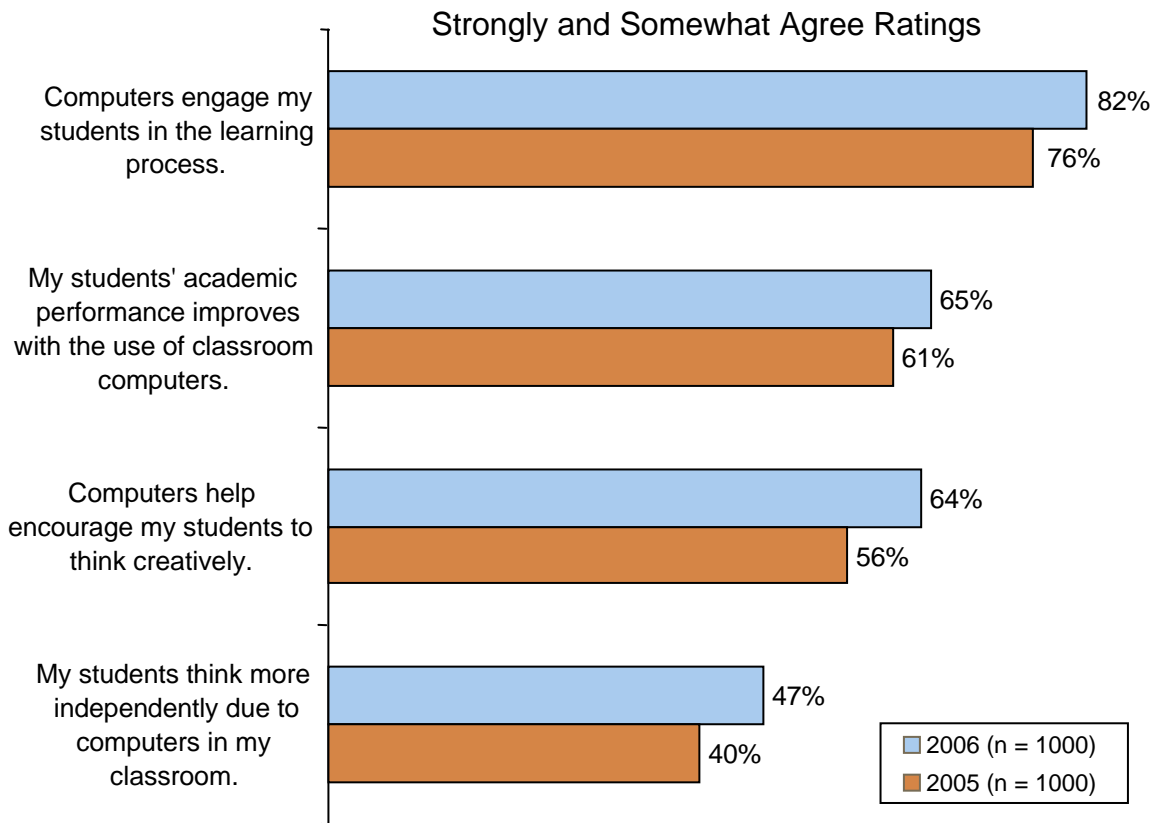
Q) Please rate how effective you feel computers are as a classroom tool in addressing each skill

# Technology as a Teaching Tool

Computers increasingly impact student performance



- 2006 results demonstrate a significant increase over 2005 in how teachers view the impact of technology on teaching. Leading the way are creative thinking, more independent thinking and engaging students in learning



## Teachers Say

“I think technology in the classroom makes it more interesting for the kids. They are more willing to do the work...Most of them will sit in front of the computer and feel like they could do something. They are more drawn into a computer than they are a book.”

—Katy High School

As teachers continue to embrace technology in the classroom there is a larger role for technology in the core curriculum

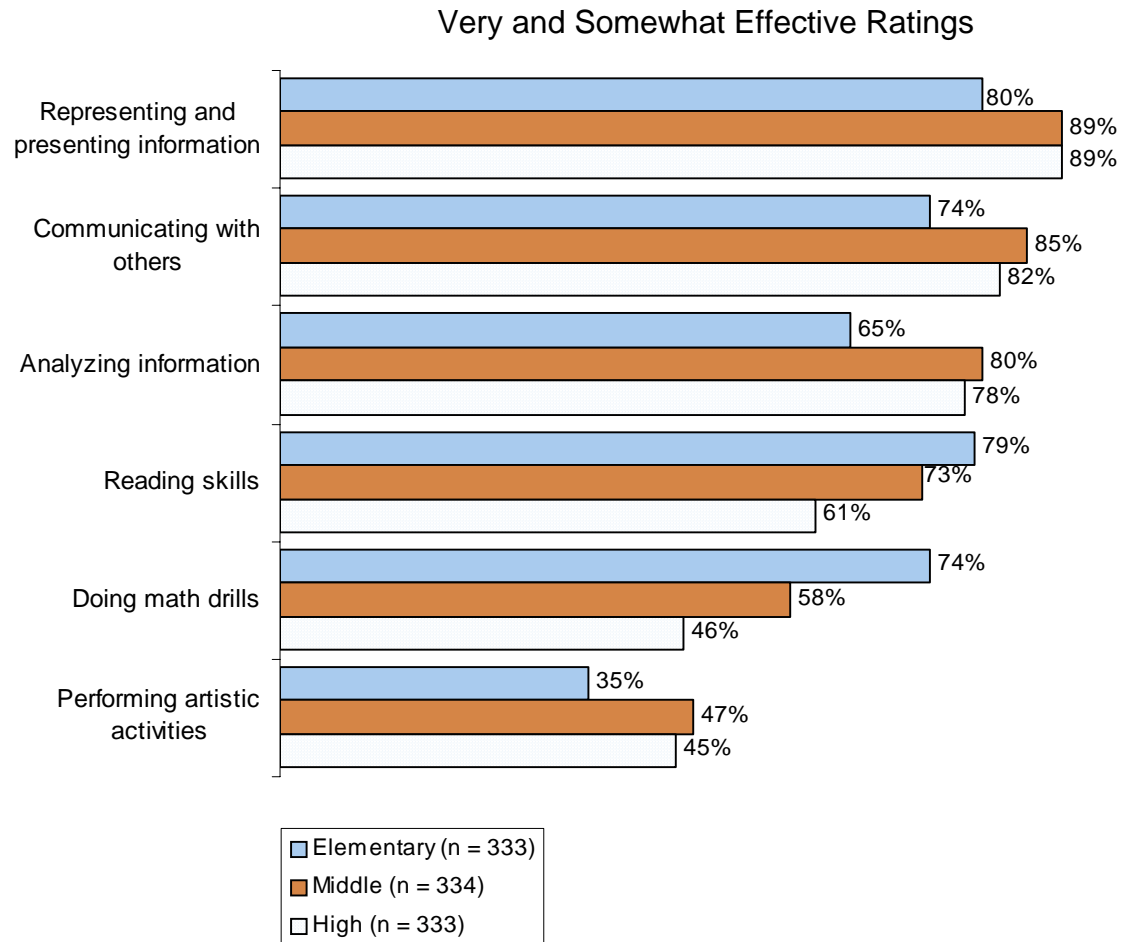
Q) Identify some issues that may affect the best use of computer technology as a teaching tool in the classroom

# Technology as a Classroom Tool

*Effective, appropriate use at all levels*



- Technology is viewed as an appropriate and effective instructional tool for the teaching methodology at each grade level
- At the elementary and middle school levels, where lessons focus on core skills and drill and practice, teachers believe computers are an effective tool to teach skills such as reading and math
- By high school, where the emphasis has shifted to higher order thinking and collaborative learning, teachers believe that technology in the classroom is more effective for presentation, communication and analysis



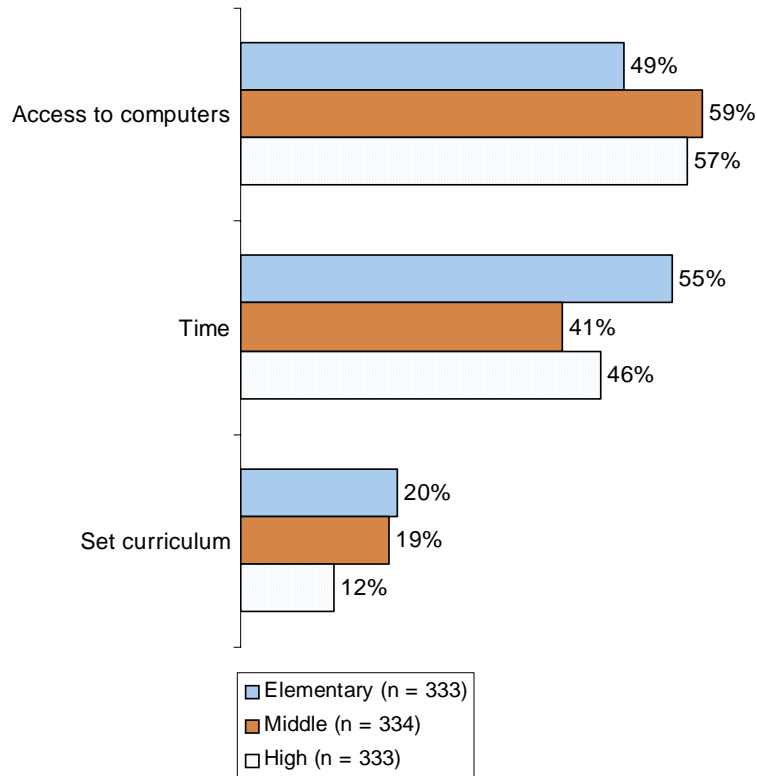
Q) Please rate how effective you feel computers are as a classroom tool in addressing each skill

# Teachers' Technology Obstacles

Challenges vary by grade level



- Elementary school teachers struggle to find enough time to integrate technology into the curriculum
- Middle and high school teachers struggle with access to technology



## Teachers Say

"It would be very cool if desks came with built-in computers, but until we can do that, I am not sure that having a couple of computers or going to the computer lab is going to do it."

— Community Middle School

## Teachers Say

"If something is new, you have a learning curve. You have to have time to learn it yourself before you can teach it to others."

— Katy High School

## Teachers Say

"Some issues are cultural — the staff and the environment to use computers has to have a big push. Administratively, they have to really follow through with initiatives. Using computers is not always in the teachers' performance standards."

— Community Middle School

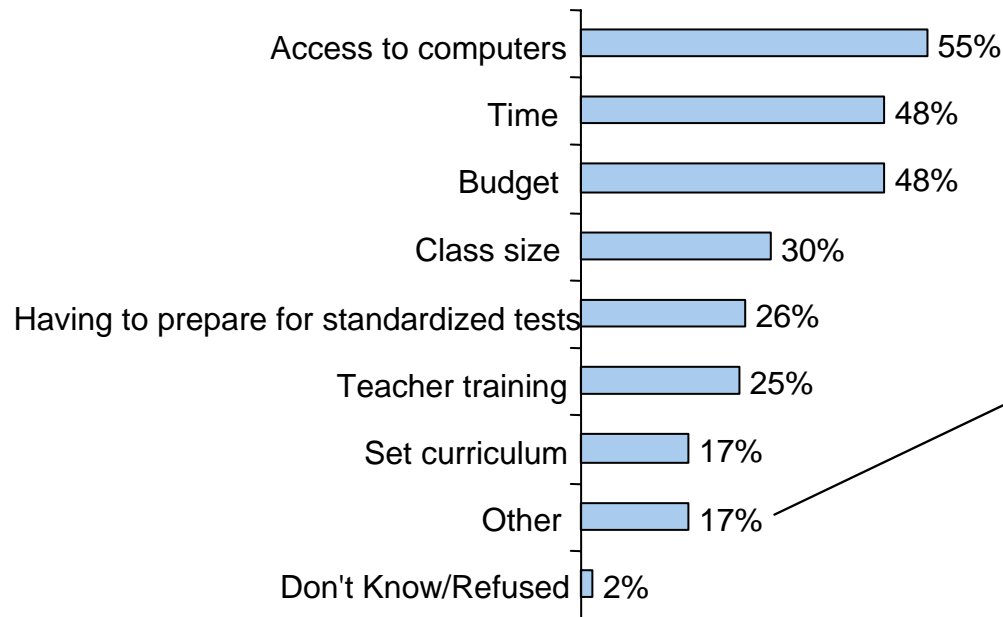
Q) What do you see as the most significant obstacles to integrating technology into your daily curriculum?

# Teachers' Technology Obstacles

*Time, access and budget are the top three obstacles to technology integration*



- Access, time and budget are the top three obstacles to fully integrating computers into the curriculum



### Other responses:

- Technical problems
- Lack of computer availability
- Lack of tech supplies/equipment
- Lack of tech support
- Computers not necessary/not always the best tool
- They quickly become outdated
- Time consuming
- Not all students are computer savvy
- Requires extra teaching
- Kids need more monitoring

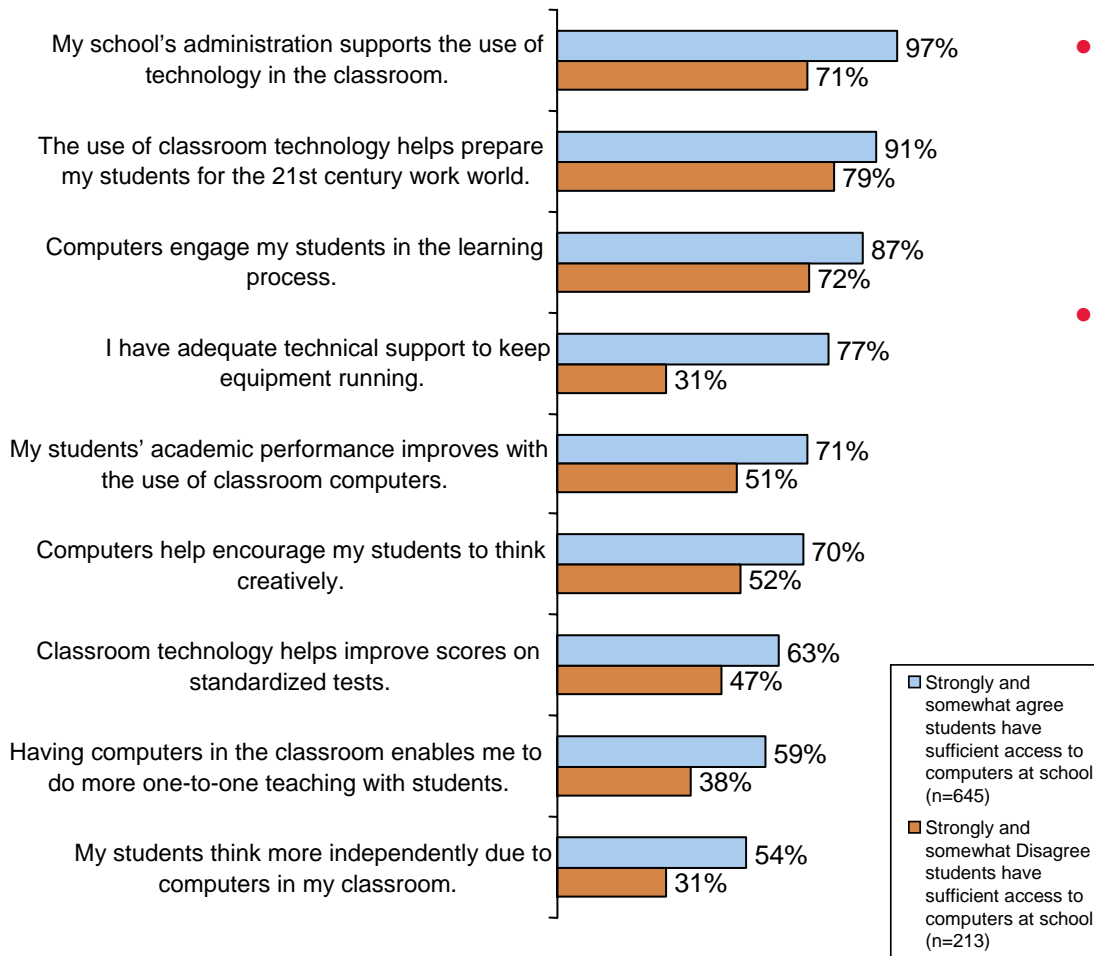
Q) What do you see as the most significant obstacles to integrating technology into your daily curriculum?

# Teachers' Technology Obstacles

Access to technology predicts teacher perception of technology



## Strongly and Somewhat Agree Ratings



- Teachers who agree their students have enough access to computers are also more likely to use technology in the classroom
- 2006 data indicate a direct correlation between student access to computers and the degree to which technology is integrated into classroom lessons

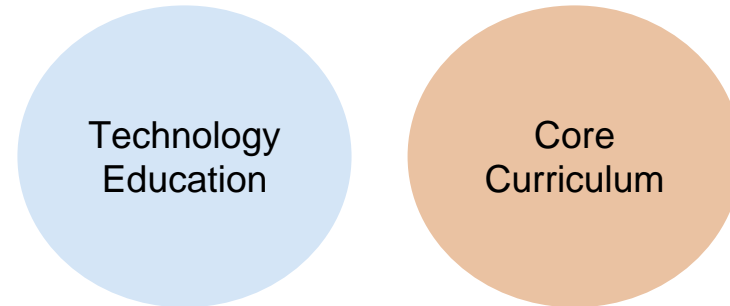
We see a connection between access to technology and the belief that technology does indeed work

Q) Please rate how effective you feel computers are as a classroom tool in addressing each skill

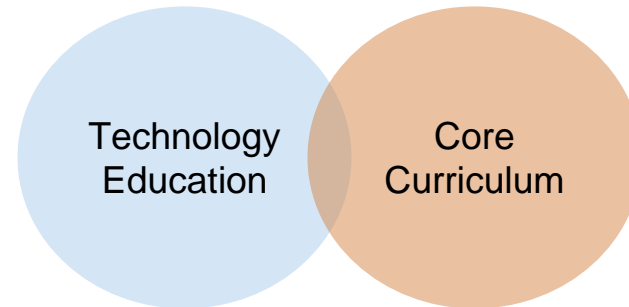
# True Technology Integration



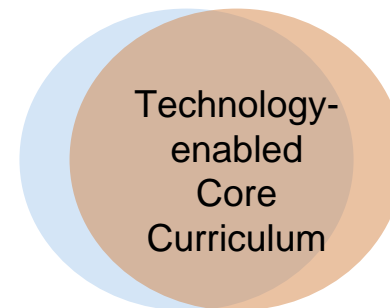
For many years technology skills were taught separately from the core curriculum. Lack of understanding, time, access, and budget kept the two areas apart



Today, increased technology professional development has led to an increased understanding of technology's role in the core curriculum, but obstacles still remain



In the future, as the obstacles are overcome, educators can actively integrate to create a seamless technology-enabled core curriculum

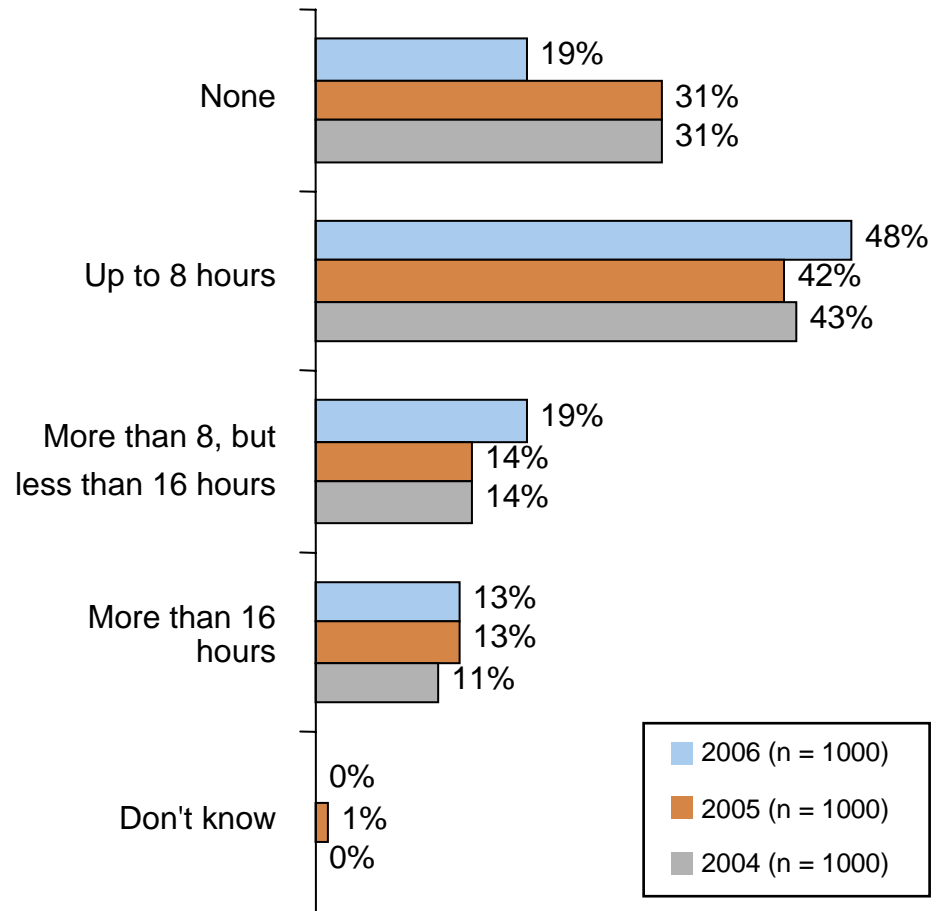


# Technology Professional Development

*Hours of technology professional development are on the rise*



- There was a significant decrease (12 percent) from 2005 to 2006 in the number of teachers stating they did not receive any hours of training in the use of computers and classroom technology
- Yet, nearly one-fifth of teachers received no technology training over the past 12 months



A significantly smaller number of teachers report receiving no training in 2006 versus previous years. Considering how technology is changing the teaching process, the number should be closer to zero

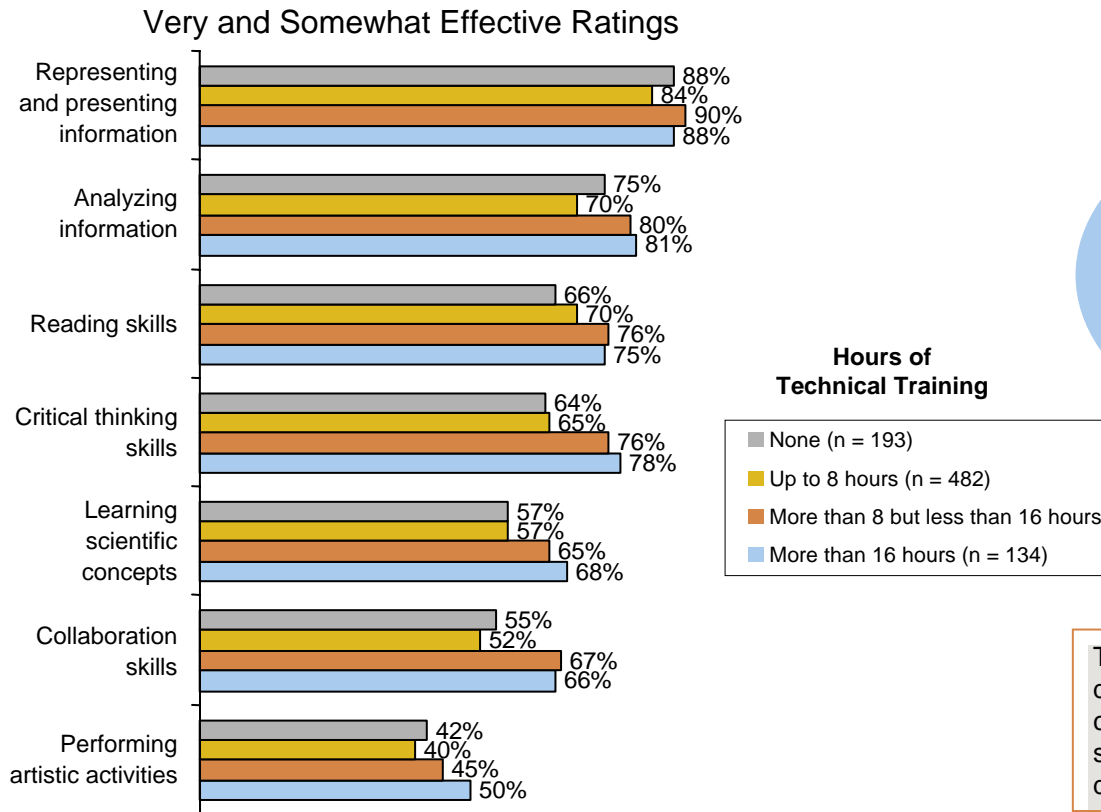
Q) Over the past 12 months, how many hours of training have you received in the use of computers and other classroom technology that has been provided by your school or school system?

# Technology as a Teacher's Tool

Professional development and technology in the classroom



- The more hours of technology professional development that teachers receive, the more likely they are to feel that technology is an important classroom tool



**Teachers Say**  
 “You are able to give students another avenue to keep the kids engaged in learning. If you have students that are learning at a difference pace, whether slower or faster, you can help them.”  
 — Katy High School

Teachers with more technology professional development are better able to integrate computers into lesson plans, use instructional software and use technology to help students develop critical thinking skills

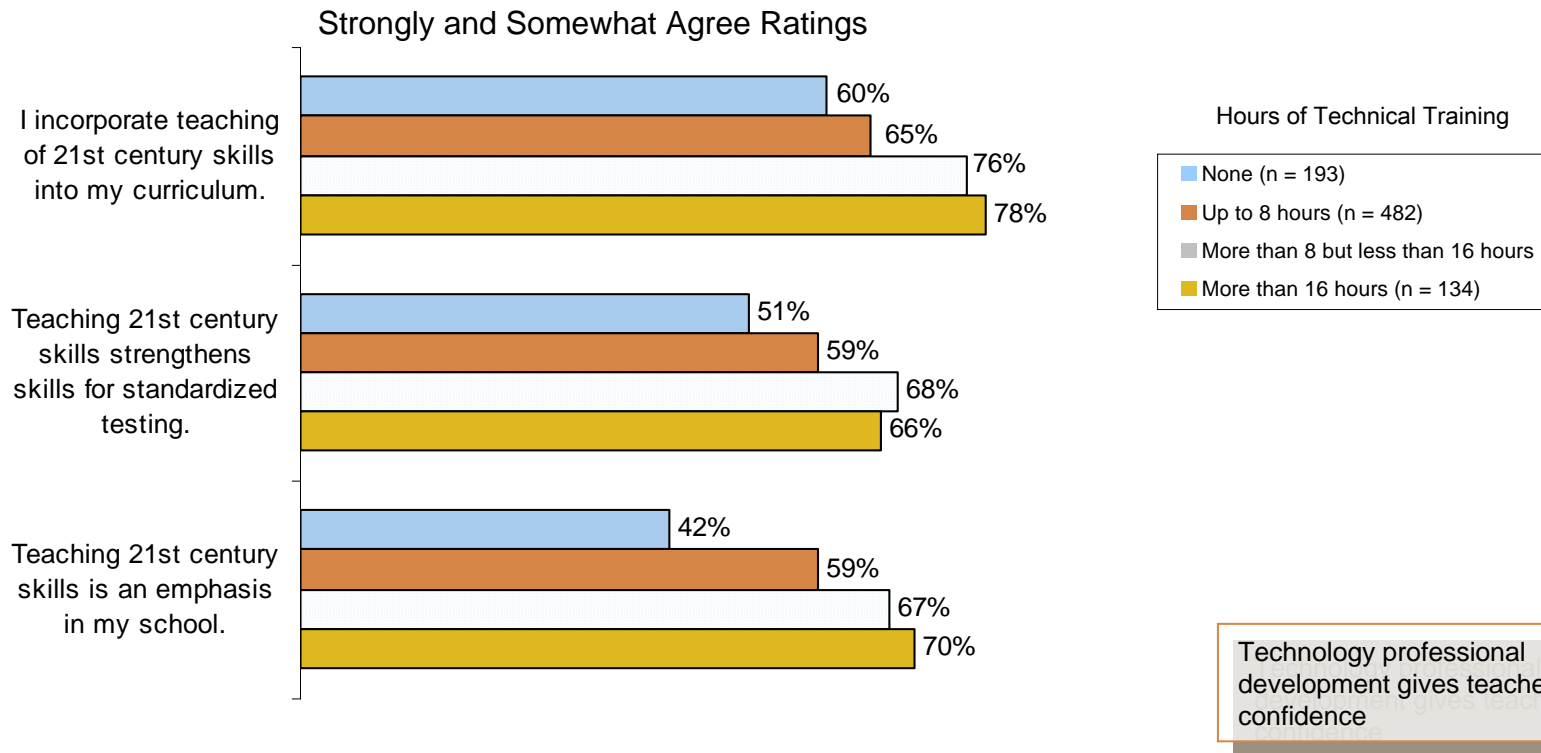
Q) Please rate how effective you feel computers are as a classroom tool in addressing each skill

# Professional Development as an Integration Tool

## Teacher confidence grows with more training



- The more technology-related professional development teachers have received, the more likely they are to integrate 21<sup>st</sup> century skills into the classroom



Q) Some of these skills we have been asking you about are associated with teaching 21<sup>st</sup> century skills. After each statement, please tell me whether you agree or disagree with the statement where 1 is strongly disagree, 2 is somewhat disagree, 3 is neither agree nor disagree, 4 is somewhat agree and 5 is strongly agree.

# Professional Development as an Integration Tool

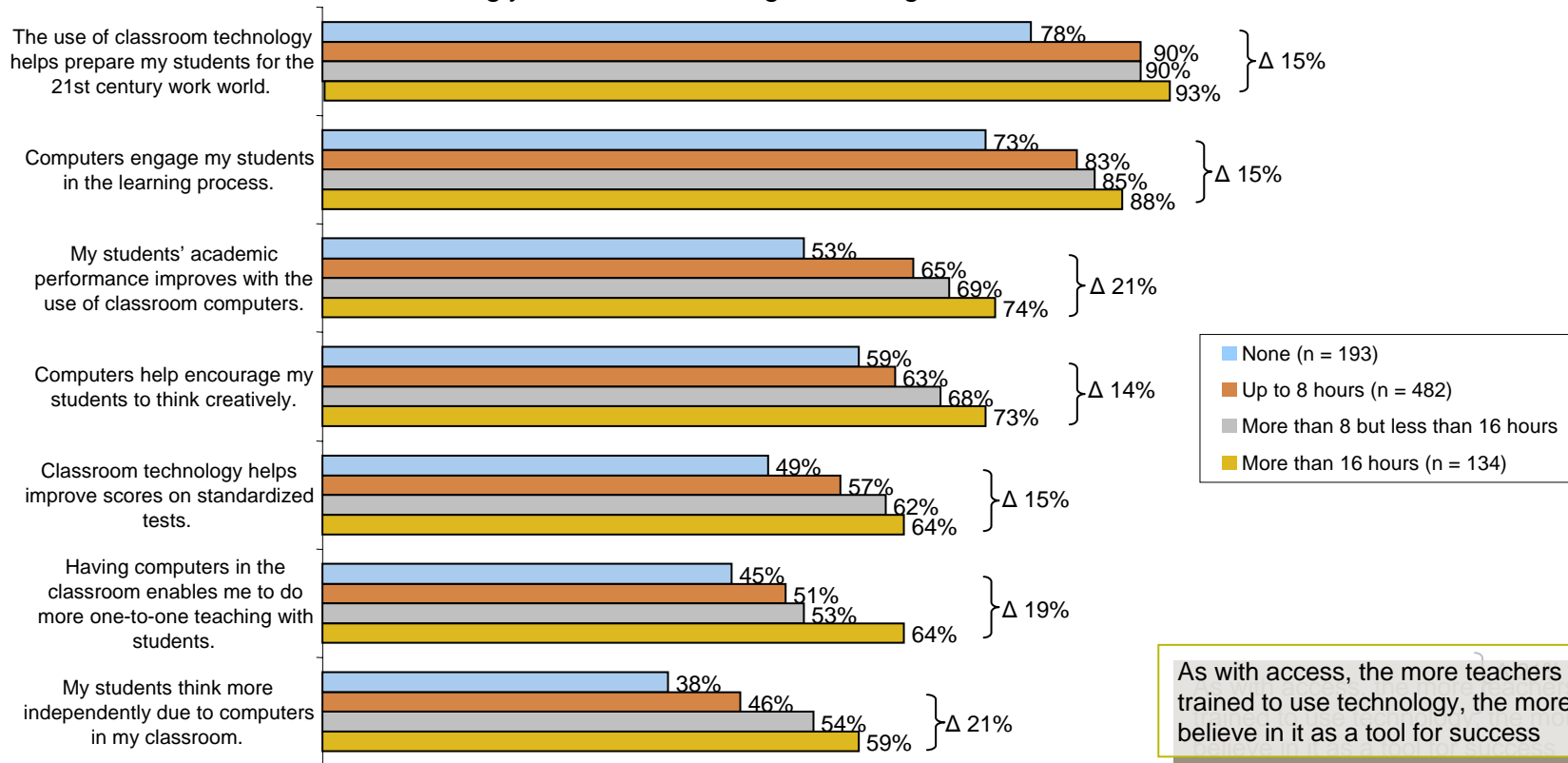
## Teaching 21<sup>st</sup> century skills requires 21<sup>st</sup> century training



- The more technology training teachers receive, the more likely they are to see the positive impact technology can have on students

Δ: Teachers receiving more than 16 hours vs. zero hours

Strongly and Somewhat Agree Ratings



As with access, the more teachers are trained to use technology, the more they believe in it as a tool for success

Q) Identify some issues that may affect the best use of computer technology as a teaching tool in the classroom

# Call to Action



- Industry should focus on making technology, from computers and interactive white boards to software, a seamless part of the core curriculum – bring technology to the teachers, not teachers to the technology
- Until core curriculum and technology skills are better integrated, teachers will continue to face serious time, access and budget challenges in facilitating technology in education. Teacher training and professional development should reflect this requirement
- Technology is a vehicle to enable true differentiated instruction in today's classrooms. Districts and technology providers need to be sure that remedial, on-target and accelerated students are all being served and realize the educational benefits of technology in the classroom
- The educational technology industry shares the burden for making the case for technology to administrators, parents and policy makers and increasing the value of technology professional development

# Methodology



- QED conducted telephone interviews between January 11 and February 22, 2006 with K-12 teachers
- A total of 1,000 K-12 public school teachers completed the survey
- The random sample was drawn from QED's National Education Database™ (NED) of K-12 schools, which is a census of all schools and districts in the United States
- A sample size of 1,000 respondents equates to a +/- 3% precision at a 95% confidence level

# Sample Design



- **Grade Level**
  - 33% of respondents in elementary schools
  - 35% of respondents in middle schools
  - 36% of respondents in high schools
- **Region**
  - 17% of respondents in the Northeast
  - 34% of respondents in the South
  - 27% of respondents in the Midwest
  - 22% of respondents in the West
- **Metropolitan settings**
  - 24% of respondents in urban areas
  - 45% of respondents in suburban areas
  - 32% of respondents in rural areas
- **Schools' student enrollment numbers**
  - 22% of respondents in schools with enrollment 299 and less
  - 29% of respondents in schools with enrollment 300-499
  - 27% of respondents in schools with enrollment 500-749
  - 22% of respondents in schools with enrollment 750 and more

# Respondent Demographics



- **Subjects Taught (multiple responses allowed)**
  - 57% of respondents teach Reading, English or Language Arts
  - 48% of respondents teach Math
  - 41% of respondents teach Social Studies or History
  - 44% of respondents teach Science
  - 3% of respondents teach Computers
  - 3% of respondents teach Physical Education/Health
  - 2% of respondents teach Music or Fine Arts
  - 2% of respondents teach Foreign Languages
  - 2% of respondents teach other subjects
- **Number of Students Taught**
  - 5% of respondents teach 1 to 15 students on a daily basis
  - 32% of respondents teach 16 to 25 students on a daily basis
  - 12% of respondents teach 26 to 35 students on a daily basis
  - 2% of respondents teach 36 to 40 students on a daily basis
  - 49% of respondents teach more than 41 students on a daily basis

# Respondent Demographics



- Years Teaching
  - 2% of respondents have taught less than one year
  - 13% of respondents have taught more than 1 year, but less than 5 years
  - 21% of respondents have taught more than 5 years, but less than 10 years
  - 18% of respondents have taught more than 10 years, but less than 15 years
  - 15% of respondents have taught more than 15 years, but less than 20 years
  - 32% of respondents have taught more than 20 years
- Gender
  - 71% of respondents were female
  - 29% of respondents were male

Thank you!  
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