Learning in the 21st Century:
A National Report of Online Learning

Today’s 21st century students, parents and teachers are demanding a 21st century education. In order to meet their needs, schools and districts across the country are implementing online learning programs that empower students with more flexibility to access a challenging and high-quality education, and arm teachers with more opportunities to deliver a quality 21st century education to all students.

Reported and Contributed by:
EXECUTIVE SUMMARY

Technology and online communications are dominant forces in students’ lives. Students go online to find answers to their questions, communicate with friends and family, play games and listen to music. As computing and networking technologies have proliferated through schools and communities, educators increasingly incorporate online tools and resources into their curriculum, even replacing traditional classroom interactions with “virtual” courses that take place entirely online.

What Is Online Learning?

Online learning may include any organized instruction using Internet technologies in conjunction with face-to-face instruction or in place of it. The National American Council for Online Learning (NACOL), a non-profit organization that promotes online teaching and learning, defines online learning as:

*Education in which instruction and content are delivered primarily via the Internet. Online learning is a form of distance learning.*

NACOL also offers a definition of a course management system (CMS), the technology platform used to deliver online learning:

*A CMS includes software for the creation and editing of course content, communication tools, assessment tools, and other features designed to enhance access and ease of use. “Learning management system” (LMS) is often used interchangeably. (Source: A National Primer on K-12 Online Learning, NACOL)*

This report explores student, teacher, and parent attitudes toward online learning based on surveys completed by 232,781 K-12 students, 21,272 teachers, and 15,316 parents as part of Speak Up, a national research project facilitated by Project Tomorrow, as well as interviews with administrators and teachers in six school districts using a range of different online learning models. This report focuses on the use of online learning for sixth through twelfth grade students and for teacher professional development.

Online Learning Survey Highlights

- Online learning is becoming widespread in U.S. education. One in five students in grades 6-12 have taken an online or distance learning course at school or on their own, and 1 in 3 students selected online classes as a component of their ideal school.
- In addition to the students who take an online course, many more students regularly use online technologies for research and to communicate with family and friends about school work.
- Students are making less of a distinction between learning online and offline. Classroom instruction may incorporate online learning activities such as discussion boards, online assignments, videos, podcasts, or online assessments. Twenty-eight percent of middle school students and 18% of high school students answered “not sure” to the question: “have you ever taken an online course or participated in a distance learning class?”
- It cannot be assumed that proficiency with technology, use of online tools for schoolwork and personal use translates into a desire to take an online course. When asked if they had ever taken an online course, 29-30% of students had not and were not interested. This group of students may prefer to learn in face-to-face settings that also use online learning technologies.
• While 47% of students in grades 9-12 pursue online learning to secure courses not offered at school and 43% to work at their own pace, extra help was the top reason for 6-8th grade students (42%), teachers (57%) and parents (58%). Both parents and teachers also value online courses as a way for students with an extended absence to make up their work.

• More teachers (46%) have taken an online course than students, however only 3% have ever taught an online class. On a weekly basis, 17% of teachers use online tools for professional development and 12% seek advice or counseling outside of the school community.

• Seventy-seven percent of teachers believe that technology makes a difference in learning and 28% would like to see online courses offered as an alternative in their district. Only 3% of Speak Up teachers report they have taught an online class, however 24% are interested in teaching one.

• Compared to 18% of teachers, 30% of 6-8 grade students, 39% of 9-12 grade students, and 42% of parents believe that online classes are a good investment to improve student achievement. More parents selected online classes than laptops and white boards (the top choice for many students and teachers). Interviews suggest that parents value their own online access to the curriculum and the ability to track their child’s progress.

The Real World: Online Learning in Six School Districts

Profiles of six school districts using online learning tools reflect a wide range of adoption and implementation, providing a glimpse into the future of education for students and teachers. Like most formal online learning programs, these districts used at least one, or in some cases, all three of the following types of online learning.

• Online courses that replace a traditional classroom course. Students may have a scheduled location and period for the class, but they often work at their own pace, anywhere, anytime, and receive course credit upon completion of assignments and assessments. Districts may use this model for credit recovery, to accommodate busy student schedules, to provide more opportunities for Advanced Placement courses, to offer students more choice, and to share highly qualified teachers.

• Enhanced classroom instruction: online learning tools and learning management systems are used to supplement face-to-face instruction rather than replace it. Teachers post curriculum, resources, and assignments online. Students may join discussions, collaborate, complete assessments and submit assignments online. Students and parents have access anytime, anywhere.

• Distance learning courses: a teacher instructs students in different locations at the same time using video technology. The teacher and students often use a CMS for submitting assignments, assessment, and asynchronous communications. This model allows schools and districts to share highly qualified teachers and offer students more choices and more flexibility.

“Online learning changes the way students learn,” said Ron Beazer, technology integration specialist, Baltimore City Schools. “The teacher can put up a resource in multiple formats to meet individual student needs. A video may reach the child who is more visual and auditory.”

As online learning becomes more integrated into day-to-day instruction, the compartmentalization of education breaks down. Everyone becomes a learner and an expert with opportunities to seek and share what they know, critique what they learn, and become more engaged and involved with the global community.
Students Respond to Online Opportunities

Have you ever taken an online course or participated in a distance learning class?

One in five students in grades 6-12 answered yes, they have taken an online or distance learning course at school or on their own.

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<th>Grade Level</th>
<th>Yes: School</th>
<th>Yes: On Own</th>
<th>Not interested</th>
<th>Interested</th>
<th>Not Sure</th>
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<td>6th-8th Grade</td>
<td>13%</td>
<td>8%</td>
<td>29%</td>
<td>21%</td>
<td>28%</td>
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<tr>
<td>9th-12th Grade</td>
<td>12%</td>
<td>8%</td>
<td>30%</td>
<td>32%</td>
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The large percentage of students who answered “not sure” may indicate the growing integration of online learning into face-to-face classes. As technology has become integrated into schools, younger students have been more exposed to learning technologies at school for a longer time. This may account for the difference in response of 28% of 6-8th graders and 18% of 9-12th graders.

When asked why a student might take an online class, the answers reflect the difference between high school student priorities for more specialized courses and more flexibility compared to middle school students’ concerns about extra help, working at their own pace and interest in a specific subject.

While 29% of 6-8 graders and 30% of 9-12 graders were “not interested” in an online course, when presented with reasons they might take an online class, many answered they would take one to get extra help in a subject (30.2%), to take a class not offered at school (27.8%), to work at their own pace (26.5%), or to take advanced or AP classes (22.4%). These choices closely mirror the top choices of students who were more interested in online classes.

In 2006-2007, a high school in the Klein Independent School District in Texas, used online learning courses as an alternative to summer school. Students recovered 875 credit hours using online curriculum during scheduled periods with close supervision by teachers at the school.
“A student who has been unsuccessful becomes successful,” said Jeannie Connors, student support services officer. “It has made a significant difference in how they feel about themselves and school.”

While no significant differences exist between urban, suburban, and rural students in terms of whether they have taken an online class, the reasons a student lists for wanting to take a class differ.

- Rural students are more interested in taking an online class for a class not offered at their school or to work at their own pace.
- Urban and suburban students are interested in taking an online class to get extra help in a subject.
- Suburban students also express interest in online courses to accommodate their busy schedules.

“Teachers collaborate with each other. There are so many resources on the site, I would not be able to teach without it.”

Subjects of interest for online classes track closely between age groups with mathematics, foreign language, technology, and science at the top of the list and college admissions preparation as priority for older students. Subject areas differ somewhat depending on where schools are located: rural students expressed more interest in math and foreign language classes while urban students more frequently selected vocational classes and suburban students were most interested in college preparation classes.

If you were the principal at your school, what is the ONE thing you would change about how technology is used at your school today?

When asked to pick one option from a list, students overwhelmingly voted for the ability to communicate at school. The top choice for both 6-8 graders (28%) and 9-12 graders (18%) was “Allow students to use cell phones, IM, and email at school.” Eight percent of 6-8 graders and 9% of 9-12 graders selected: “Let students take an online class,” instead of other options such as provide laptops for students to take home and purchase better equipment.

Although many educators fear that email and chat will distract students, Kathy Rains, director of technology for Madison City Schools in Alabama, found that, when integrated into the LMS, students used chat for learning. “We watch the chat and we see that they are working, asking questions, getting help from each other,” said Rains.

If you were designing a new school today for students just like you, which of these would be part of your ideal school?

When asked about elements of an ideal school (students could choose more than one option), web-based communication tools closely followed wireless laptops for students at home and at school. Further analysis shows that students become more interested in electronic communication as they mature—1/3 of 8th grade students compared to 51% of 12th grade students chose communication as a top priority. More technically advanced students (56%) also desire this type of communication compared to the least proficient students (30%).

Klein Independent School District, Texas

Number of schools: 38
Students: 40,000+
Ethnicity: 49% white, 8% Asian, 27% Hispanic, 15% African American
Free and Reduced Lunch Eligibility: 30%

Online Learning Model
Students in grades K-8 use an online learning curriculum for technology education within the context of core content instruction. Students at Klein ISD were more likely to have taken an online course at school (13%) and on their own (9%) than the national averages according to Speak Up survey results.

All high schools offer online courses for credit recovery. Students attend class at a set time in a computer lab where they work at their own pace. More than half of parents, 53%, believe online classes for students is a good investment, compared to 42% nationally.

“A student who has been unsuccessful becomes successful,” said Jeannie Connors, student support services officer. “It has made a significant difference in how they feel about themselves and school.”

Funding for Online Learning
The district used state funds targeted to closing the graduation gap to purchase curriculum for 24 courses. Up to 150 students can be online at any time from school or home.

Implementation Information
A high school piloted the program in 2006-2007 and recovered 875 credits by providing students an alternative to summer school. As more high schools join the program, they set their own protocols: one offers courses to 9th graders and another focuses on seniors with about 200 students participating district wide.

Benefits and Advice for Others
- The teacher monitor may have students taking a range of courses. They should be able to schedule time for students to meet with subject-area teachers for additional help, if needed.
- If students complete coursework before the semester ends, the school may offer remediation for other skills or provide released state tests to help students prepare for high stakes exams.
- Offering reliable, available online curriculum requires time, energy, and coordination. The IT department has to make sure the network has the bandwidth to support it and computers for access.
The option to take classes online is part of the ideal school for 30% of middle school students and for 39% of high school students. These students are more likely to be advanced tech users and female. Students who have taken an online class outside of school and students who have not taken any but express interest in doing so, were also more likely to include online classes in their ideal school.

Teachers Support Student Online Learning

Technology has become an integral professional tool for many teachers, and is used to prepare materials for instruction, track student information, communicate with parents or develop their own skills. When asked about using technology for professional tasks on a weekly basis:

- 17% of teachers participate in online professional development
- 12% of teachers seek peer-to-peer advice or counseling outside the school community
- 11% use a school content portal
- 3% contribute to a blog or create a podcast

The Baltimore City School District stopped printing curriculum and instruction guides for distribution to 200 schools. Instead, they populate their curriculum management system (CMS) with the guides and resources teachers need to create curriculum for the classroom. “We have a repository for teachers to drop in lesson plans and activities to share,” said Ron Beazer, the district technology integration analyst. “Lessons are juried by department chairs then made public for all teachers in the district.”

What is your preferred method for professional development?

When selecting a single preferred method for professional development 28% of teachers chose school or district-provided trainings followed by peer-to-peer and study teams (20%). Online course made the top five list selected by 7% of teachers as their preferred method. These teachers are more likely to be new teachers, with less than 4 years of teaching experience, and under 39 years old. Also, teachers who have taken an online class for professional development are more likely to choose online classes as their preferred learning method (12.3%). It should be noted that several of the school districts interviewed for this report include an online professional development component in their training program.

**Funding for Online Learning**

The district launched their program with grant funding for a demonstration project. The success led to local funding dedicated to widespread adoption.

**Implementation Information**

The Baltimore Learning Community of 8 schools began using web-based delivery in 1998 and explored the use of a learning management system. A teacher laptop program, giving them access from home as well as school, increased teacher usage. Key features used by teachers include content, professional development, discussion boards, calendars, and single log-in access to other district resources. Principals and district administrators send news and updates through the LMS.

“Online learning changes the way students learn,” said Beazer. “The teacher can put up a resource in multiple formats to meet individual student needs. A video may reach the child who is more visual and auditory.”

**Benefits and Advice for Others**

- Sustainable funding is an essential component for the long-term success of an online learning management system. Transitioning the district is an “extreme undertaking” according to Beazer.
- Finding people and funding to train teachers became an essential part of success for the district. Five TIAs at the district office manage the infrastructure and 32 TIAs support teachers at schools.
Many districts with active online learning management systems have found online learning to be an effective and efficient way to offer professional development and support peer-to-peer learning. “Teachers collaborate with each other,” said Michelle Gotico, a 7th grade social studies teacher at Poe Middle School in Fairfax, Virginia. “There are so many resources on the site, I would not be able to teach without it.”

Forty-six percent of teachers have taken an online course, and 24% are interested in taking one. Interested teachers are more likely to rank themselves as technically advanced (56%) than the national average (36% of teachers). They typically have 4-10 years of teaching experience and are less likely to have advanced degrees. The less technically proficient the teacher is, the less likely they are to have taken an online class or expressed interest in one. Of the teachers who answered no, not interested: 12% rated themselves technically advanced, 24% rated themselves technically average, and 36% were self-rated technology beginners.

Have you ever taught an online class?

Very few teachers have taught an online class, just 3% nationally, however 24% expressed interest in teaching one. The majority of teachers support students taking online classes to get extra help in a subject (57%), to take a class not offered at school (56%) and to work at their own pace (52%). Despite increasing use of online learning tools and support for student online education, 63% of teachers are not interested in teaching online courses.

“You don’t just put your notes up. There are different types of assignments that take advantage of the Internet and 21st Century skills.”

Robert Hiles, the online learning coordinator at Newport Mesa School District in Orange County, California, has found that some teachers prefer teaching online because it gives them more flexibility. An emeritus teacher in his seventies found the transition from manual to electric typewriter harder than teaching online. Hiles also noted that mothers with young children have been able to continue teaching without coming into the classroom.

Hiles also noted that preparing for an online course is different from face-to-face instruction. “You don’t just put your notes up,” he said. “There are different types of assignments that take advantage of the Internet and 21st Century skills. The ideal online lesson has as much authentic assessment as possible.”

When teachers think about an online course, they think it is not face to face,” said Kaylynn Burns, eLearning Instructional Technology Specialist at Clear Creek Independent School District, Texas. However, as teachers start using a CMS, they see how it can enhance their classroom instruction. “The teacher is still in the classroom and this is a means to get information out to students.”

Which technology services do you think have the greatest potential to improve student success at school?

Nationally, 75% of teachers report that technology enhances student performance and 58% specify enhanced engagement in learning. With regard to technologies with the greatest potential to improve student success, teachers want to see computers in the classroom.
classroom (63%) and laptops for use at school (41%). This was closely followed by communication tools for parents and teachers (42%) and a useful school website (40%). Many teachers recognize the potential of online learning in student achievement with 29% favoring digital curriculum to augment print products and 28% choosing online courses offered as an alternative to courses available at their school.

Although teachers are not eager to teach an online course, they believe that online sources would be useful for teaching. Rather than seeking training, they seem to favor resources for use in the classroom. More than half selected “a list of good websites for my subject area”. Other teachers look for lesson plans, streaming video, interactive simulations, research links, test-banks for assessments, and online experiments. Only 10% selected just-in-time online teaching support, yet 24% would like to have nuggets of teaching ideas and 21% are in favor of videos of teaching demonstrations.

If you were designing a new school today for teachers just like you, which of these would be essential?

The top priorities for teachers are access to and time with technology. Interactive white boards are the top essential tool, selected by 47% of teachers, followed closely by wireless laptops for every student at school (46%) and time everyday for students to work independently on the computer (45%).

Nationally, 42% of teachers see a school portal as essential and 52% of advanced teachers prefer this option. A slightly higher percentage of newer teachers (with less than 10 years experience), 55%, want a school portal. Just 18% of teachers marked the option for students to take online classes as essential, compared to 39% of high school students. However, 24% of technically advanced teachers favored this option.

Even though just-in-time training and podcasts and webcasts barely registered as a preferred method of training for teachers, embedded professional development time and a variety of options for methods was essential to 38% of all teachers and 47% of advanced teachers.

If you were designing a new school today for teachers just like you, which of these would be essential?
Parent Involvement Extends Online

Has your child ever taken an online class?

Although parent support for online courses is very high, most parents (78%) are not aware of online classes available for their children. The percentage of parents whose children have taken an online course on their own matched the student response (5%). Only 7% parents said that their children had taken an online class at school compared to a “yes” from 12-13% of students.

Overall, parents cite more reasons for students to take online courses than either teachers or students, suggesting that parents are very interested in online course options. A majority 58% of parents support online classes for extra help with school work. A high number of parents also recognize a child’s absence for a long period from school as a reason to take an online class.

Why would you want your child to take an online class?

If you were on a technology committee for a new school, which of these would you recommend as a good investment to improve student achievement?

Compared to 30% of students and 18% of teachers, 42% of parents believe that online classes are a good investment to improve student achievement. Their top investment priorities were computers in classrooms (61%), a useful school web site and software to support academic subjects (60% each). They favored online classes over white boards (the top choice for many students and teachers) and laptops for students at school and to take home.

Kathy Rains, director of technology at Madison City School District in Alabama, found that parents in her school district are highly supportive of online courses for teachers to post curriculum and assignments. Parent log-ins give them a more direct connection to the classroom curriculum than student or teacher communications offer.

Having a school portal with an LMS makes learning more interactive for the whole community, according to Sonya Swansbrough, principal of Poe Middle School in Fairfax, Virginia: “For teachers and students, students and students, resources to parents, teachers and staff. We get information back, and change it continuously.”

“Parents are very interested in online course options.”

Clear Creek Independent School District, Texas

Number of schools: 39
Students: 35,143
Ethnicity: 63% white, 18% Hispanic, 10% Asian/Pacific Islander, 9% African American
Free and Reduced Lunch Eligibility: 19%

Online Learning Model
Clear Creek Independent School District (CCISD) supports online learning through three different programs at the school district. The district supports distance learning courses through video conferencing for inter-district course sharing. The alternative high school campus uses a digital course curriculum with access from dedicated laptops for students who do not follow a traditional schedule, and the same curriculum is offered to homebound students. In fall 2007, the district launched a district-wide content management system to enhance face-to-face instruction.

Implementation Information
As part of the CMS roll-out, each school site will have its own school portal. Teachers are learning how to set up calendars, schedules, and course information. They post documents and assignments to their online courses. Students will be able to submit assignments through the CMS.

“When teachers think about an online course, they think it is not face-to-face,” said Kaylynn Burns, eLearning Instructional Technology Specialist. However, as teachers start using a CMS, they see how it can enhance their classroom instruction. “The teacher is still in the classroom and this is a means to get information out to students. These are the things you can do easily.”

Benefits and Advice for Others
• Students will have access anywhere, anytime to their course work to promote more independent learning and flexibility.
• Moderated discussion boards enable students to discuss teacher designated topics at anytime.
• The range of features and options available in a typical CMS gives teachers many ways to adopt online learning at their own level.
Learning from Experience

Although formal online learning courses currently receive less priority from students and teachers than other technologies, responses to how and why students and teachers use technology for learning suggest that online resources and tools have become essential to the learning process. Eighty-eight percent of 9-12 graders and 80% of 6-8 graders use technology at school for online research. They learn computer skills at school and use them to create presentations, movies, and web sites. They check for assignments online and communicate with each other about school work.

When considering an online learning option at a school district, students, teachers, and parents have different priorities and concerns:

- Students value options and flexibility in the learning process. They want to communicate at school using online tools and they want to choose their learning mode—whether online, offline, or some combination of the two.
- Teachers see the value of online tools in the learning process and how it engages students. They use it for their own professional development and welcome it as part of traditional classroom teaching. They want students to have the option, but may not be as willing to provide it.
- Parents want to connect with their schools and know what is happening in their children’s courses. They view online learning as an opportunity to become more engaged and help their children make progress.

“Having a school portal with an LMS makes learning more interactive for the whole community.”

“As district decision makers and teachers explore online learning in their own schools, they have an opportunity to engage students, prepare teachers, and connect with parents in a more personal and individualized way using the power of technology. All of the educators interviewed agree that both technology and curriculum and instruction departments must be on board with online learning to achieve success. Technology reliability is as essential as teacher preparation and support. To find out what students, teachers, and parents really think about technology at your school or district, we encourage you to participate in Speak Up, which is held each fall.

To learn more visit: www.tomorrow.org/speakup
About Speak Up

Speak Up is a national initiative of Project Tomorrow (www.tomorrow.org), a national education nonprofit group based in Irvine, California. Project Tomorrow was formed from the merger of NetDay, a national education technology nonprofit with a Southern California based science education nonprofit group in September 2005. The vision of Project Tomorrow is to ensure that today’s students are well prepared to be tomorrow’s innovators, leaders and engaged citizens of the world. The organization believes that by supporting the innovative uses of science, math and technology resources in our K-12 schools and communities, students will develop the critical thinking, problem solving and creativity skills needed to compete and thrive in the 21st century.

From 2003 through 2006, Speak Up surveyed over 857,000 K-12 students, their teachers and parents representing over 10,000 schools in all 50 states through an annual online survey event held each fall. The Speak Up data represents the largest collection of authentic, unfiltered stakeholder input on education, technology, 21st century skills, and math and science instruction, and the data is used regularly by education, business and policy leaders to inform federal, state and local education programs.

About Blackboard Inc.

Blackboard offers K-12 schools and districts a central online hub of teaching, learning and community development to enhance academic performance. Each day over 12 million learners around the world impact education and make new connections with the support of Blackboard solutions. Highly scalable, easy-to-use, and focused on student engagement and achievement, Blackboard’s Learning Management Platform is used by K-12 districts nationwide to prepare students for the 21st Century.

About the Author

Karen Greenwood Henke is a writer and consultant specializing in computing, networking, and web 2.0 technologies for K-12 schools. She regularly presents at technology conferences and blogs about technology and funding for schools at “blog.grantwrangler.com”.