Technology Innovation in Education
WE ARE SO PLEASED to celebrate the people of the education technology community, and to stay true to our primary mission of providing the market with research-based editorial and trends reporting in this 2012 Yearbook. We know how important it is for the American educational system to know what technologies campuses are purchasing and what the technology trends are. For 2013, we are excited about a quickening speed of change across K-12 and higher education environments. I sincerely hope to see dramatic shifts — with the conversation moving from “21st-Century Readiness” in teaching and learning to “Design Economy Readiness.” We are, after all, twelve years into the 21st century. It is now time to start preparing students to be ready for the Design Economy. The Center for Digital Education will be blogging about this. Follow along at: www.centerdigitaled.com/blog/edtech/ www.centerdigitaled.com/blog/edtechanalyst/

LEILANI CAUTHEN
Publisher, Converge Special Reports
Converge/Center for Digital Education

OUR YEARBOOK ISSUE is becoming one of my favorite pieces of the year. We not only get to reflect on key issues and technology innovations over the past year, we get to showcase people who are doing incredible things. We have the unique opportunity to highlight 50 movers and shakers who often don’t get recognition beyond their institutions or districts. It is people like these who are leading the way for true educational improvement. Everyone has a story to tell. We want you to hear it. We hope that in hearing what they have done, others will be inspired to either follow in their footsteps or chart a new course of their own. We are encouraged to see the number of notable technology proponents growing each year. This will translate into better educational practices, more effective educational resources, more efficient delivery mechanisms and ultimately, better student progress. Please enjoy this issue and congratulate the winners.

JOHN HALPIN
Vice President, Strategic Programs
Center for Digital Education
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Congratulations and continue innovative leadership for kids!

Karla Burkholder, Director of Instructional Technology, Northwest Independent School District
The 2012 Yearbook aims to support and inspire education leaders on their paths to a more digital education. The first part of the Yearbook provides education technology market awareness by taking a look at IT spend, funding opportunities and top trends of the 2011-2012 school year. This will shed some light on what technologies are top of mind and how to fund them. The second part highlights 50 education innovators that have led the way and provided best practice models to imitate. This look at what was done, who is doing it and where we are going is intended to provide guidance to education leaders on their own innovative quests in education.

**Knowing the Numbers: A Look at IT Spend and Funding**

Educational institutions leverage a variety of sources to support their technology goals and objectives. Ninety-three percent of school districts rely on federal grant programs like Investing in Innovation, Race to the Top, Title I, E-Rate and others. Districts also rely heavily on state and local grants (77 percent), PTA and school association fundraising (77 percent), private grants (75 percent) and technology bonds (30 percent) to fund education technology.³ A large number of community colleges receive funding from workforce development grants, with 73 percent receiving funding from federal workforce development grants, 89 percent from state and 54 percent from local government. Thirty-eight percent of community colleges receive funding from nonprofits and foundations.³ For example, the Trade Adjustment Assistance Community College and Career...
Training (TAACCCT) Grant Program, under the U.S. Department of Labor, is providing a total of $2 billion in grants over a four-year time period (2011-2014) — approximately $500 million annually. Additional funding sources for higher education institutions include private donations, endowments, student technology fees and capital budget appropriations. Student technology fees are most frequently used for student educational technology services (36 percent), and student support services (26 percent). Thirty percent of institutions use capital budget appropriations for enterprise infrastructure and 28 percent use them for communications infrastructure.

One of the greatest impacts on technology funding in recent years has been the economic recession. K-12 and higher education institutions rely heavily on state and local taxes for funding and this has been reduced in recent years due to unemployment. Education is feeling the effect: 63 percent of teachers indicate that lack of funding is the biggest barrier to accessing technology in the classroom. The American Recovery and Reinvestment Act (ARRA) provided some relief by funding new and pre-existing education programs, such as the formula grant program EETT (Enhancing Education Through Technology). However, that funding stream has ceased. Because of these factors, the public sector — both government and education alike — continues to feel the pressure of budget deficits and shrinking financial contributions.

With limited funding and an ever-evolving technology landscape, educational institutions will need to continue to be innovative and efficient with the resources they have available. The federal government, for its part, is supporting education by putting more emphasis on competitive results through grant programs like Investing in Innovation (i3) and Race to the Top (RTTT). Since its implementation, RTTT has injected over $4 billion into K-12 state-led innovation. I3 awarded $148 million in FY 2011 with nearly the same expected in FY 2012.

Technology itself is helping educational institutions lower costs by automating routine tasks and bringing added efficiencies. According to the Center for Digital Education's 2011-2012 Digital School Districts Survey, 76 percent of responding districts use shared services and 85 percent use cloud computing as cost-savings measures. Of the districts that had implemented shared services, 46 percent used it for networks and telecommunications, 44 percent for email, 43 percent for software licenses and 39 percent for disaster recovery.

The Center for Digital Education's 2011 Community Colleges Survey found that to cope with increased enrollments and limited budgets, responding community colleges have expanded online learning opportunities (92 percent), increased online student services (77 percent), virtualized servers (76 percent) and standardized classroom implementations (74 percent). Outsourcing, or managed services, is also a potential cost-savings measure, however, only a small percentage of higher education institutions outsource areas of their IT operations. Seven percent outsourced print and copier services, and 4 percent outsourced help desk services. For more information on K-12 school district and higher education institution IT spending, see the sidebars “2011-2012 K-12 IT Spend...”

### 2011-2012 Higher Education IT Spend Breakdown

<table>
<thead>
<tr>
<th>Category</th>
<th>Community College</th>
<th>Public University</th>
<th>Private University</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Staffing</strong></td>
<td>63%</td>
<td>58%</td>
<td>63%</td>
</tr>
<tr>
<td><strong>Equipment</strong></td>
<td>16%</td>
<td>21%</td>
<td>21%</td>
</tr>
<tr>
<td><strong>Software</strong></td>
<td>9%</td>
<td>3%</td>
<td>13%</td>
</tr>
<tr>
<td><strong>Telecom</strong></td>
<td>3%</td>
<td>7%</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Training</strong></td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>0%</td>
<td>2%</td>
<td>8%</td>
</tr>
</tbody>
</table>

K-12 Technology Key Findings

The Center for Digital Education’s 2011-2012 Digital School Districts Survey, held in conjunction with the National School Boards Association, found that districts are adopting technology at a rapid rate. Below are some of the key findings from the survey:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>76%</td>
<td>Have a classroom technology standard</td>
</tr>
<tr>
<td>67%</td>
<td>Have data dashboards in place</td>
</tr>
<tr>
<td>65%</td>
<td>Have a digital content strategy</td>
</tr>
<tr>
<td>93%</td>
<td>Have one or more online classes approved for credit</td>
</tr>
<tr>
<td>84%</td>
<td>Utilize video-conferencing to offer virtual field trips to students</td>
</tr>
<tr>
<td>97%</td>
<td>Allow educators to use Web 2.0 tools like blogs and wikis with their students</td>
</tr>
<tr>
<td>75%</td>
<td>Maintain presence on one or more social networking sites</td>
</tr>
</tbody>
</table>

For the future, educational institutions will continue to look for IT investments that drive cost savings. The Center for Digital Education estimates that the total education IT spend for public K-12 and higher education institutions in 2012 is $19.8 billion, $9.5 billion for K-12 and $10.3 billion for higher education. It is estimated that the K-12 IT spend will increase by 2 percent in 2013 to $9.7 billion whereas higher education IT spend will remain relatively flat.

Hot Technology Trends and Priorities

The following technology trends and priorities will give you a glimpse of what has been top of mind for education technology leaders in the past year and what will continue to be into the future.

Network Infrastructure

The growth of mobile initiatives, digital learning and data streaming, as well as the demand for constant Internet connectivity, are driving educational institutions to modernize and upgrade their network infrastructures. Eighty-nine percent of districts are upgrading their networks to prepare for digital content growth and 76 percent are upgrading network capacity to support bring-your-own-device (BYOD) initiatives. Twenty-one percent of community colleges note infrastructure in order to incorporate more technology in the classroom, with 55 percent of K-12 and 42 percent of higher education officials indicating wireless and networking infrastructure investments that drive cost savings.
as a key component of that upgrade. In addition, 35 percent of K-12 and 38 percent of higher education IT professionals indicate that IT security is a required area of modernization.\textsuperscript{15}

Instructors are increasingly using online video as a teaching aid, which is requiring more bandwidth as well as demand for network connectivity. Videos are being streamed from websites such as YouTube, YouTube EDU, WatchKnowLearn.org and TED-Ed. YouTube has over 800 million unique users visiting each month, YouTube EDU features more than half a million videos on 750 channels from various education partners and TED-Ed generated over one million views in the first week of its launch.\textsuperscript{14}

Network infrastructure upgrades and initiatives don’t come without challenges. According to a recent study, some of the biggest challenges facing campus networking are network security (44 percent), monitoring network activity (41 percent), keeping up with user bandwidth demand (38 percent) and managing network devices (38 percent). In addition, 52 percent of respondents indicated network security as an area of significant investment over the next 12 to 18 months.\textsuperscript{15}

**Storage**

Educational institutions need to prepare themselves for exponential data growth. The use of images, videos, interactive curriculum content, student records and administrative functions will only continue to increase and create more demand for storage.

What is occurring in the private sector often reflects what is to come in the public education sector. Currently, the private sector is experiencing a 97 percent growth of database systems and a 94 percent growth of overall data annually.\textsuperscript{16} Having adequate data storage means that IT can deliver more to users.

One study reports that 55 percent of K-12 IT professionals and 47 percent of higher education IT professionals say that they need to make improvements to their server and storage environments in order to accommodate and incorporate more classroom technologies.\textsuperscript{17} As a solution, many educational institutions are turning to shared services, consolidation and virtualization. Forty-nine percent of districts currently maintain or are implementing shared storage services, 46 percent leverage shared servers and 37 percent leverage shared data centers.\textsuperscript{18} Sixty-five percent of community colleges report that data center consolidation is underway and 81 percent have some level of data center virtualization in place.\textsuperscript{19}

Cloud computing can also be a solution to data storage demands, especially in the K-12 space. Forty-three percent of K-12 and 40 percent of higher education IT professionals report cloud computing as a major area of modernization.\textsuperscript{20}

Not only will storage demand continue to grow, but so too will the expectation of proper indexing and data retrieval so that education leaders have easy access to the data they need.

**Mobile Devices**

This past year has been a year of pilots for K-12 as districts and schools test various devices and BYOD initiatives to bring mobility to teachers, students and staff. According to the Center for Digital Education’s 2011-12 Digital School Districts Survey, 65 percent of districts provide mobile devices for staff and 42 percent provide mobile devices only to instructional staff. Eighty-three percent of districts are addressing issues with BYOD, 56 percent allow students to use personal devices and 52 percent have no official policy, but still allow BYOD. In addition, over half of the responding districts reported that they incorporate mobile devices into their curriculum content.

Although higher education has allowed BYOD for some time, the use of the devices is growing exponentially, and institutions are opening up their networks and providing more opportunities for students to connect with other students, faculty and the institution itself.

According to a recent study, K-12 and higher education students use laptops/notebooks (75 percent), smartphones (50 percent), tablets (26 percent) and e-readers (19 percent) in the classroom. However, higher education students (55 percent) are more likely to use smartphones than K-12 students (45 percent). Instructional staff are also using the same devices in the classroom: laptops/notebooks (72 percent), smartphones (36 percent), tablets (34 percent) and e-readers (17 percent).\textsuperscript{21}
Community College Technology Key Findings
The Center for Digital Education’s 2011 Digital Community Colleges Survey, held in conjunction with the League for Innovation, found that:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>90%</td>
<td>Have a classroom standard for integrated technology</td>
</tr>
<tr>
<td>79%</td>
<td>Provide secure online lecture capture</td>
</tr>
<tr>
<td>72%</td>
<td>Provide support for lecture capture set up and production</td>
</tr>
<tr>
<td>80%</td>
<td>Provide secure online access to official transcripts</td>
</tr>
<tr>
<td>83%</td>
<td>Provide secure online financial aid information and process status</td>
</tr>
<tr>
<td>76%</td>
<td>Provide online access to academic tutoring</td>
</tr>
<tr>
<td>72%</td>
<td>Provide online access to academic advising services</td>
</tr>
<tr>
<td>96%</td>
<td>Use social networking sites such as Facebook and Twitter</td>
</tr>
</tbody>
</table>

Source: Center for Digital Education’s 2011 Digital Community Colleges Survey

Despite the popularity of mobility in education, it does not come without its challenges. Educational institutions implementing BYOD initiatives face challenges with compatibility, support, device management and security. Eighty-five percent of districts are working on security access and control. E-cheating is another issue campuses are dealing with due to the rise of mobile devices. More than 35 percent of students admit to using their cell phones to cheat, 52 percent admit to some form of cheating involving the Internet and although 45 percent of students say texting friends about answers during tests is cheating, 20 percent say it’s not.

Although there are challenges, by going mobile, educational institutions remain relevant to their students and deliver the 21st-century education students demand. Eighty-three percent of K-12 and higher education students demand. Eighty-three percent of K-12 and higher education students want faculty to incorporate more tablets into the classroom as a learning tool. It's hard to deny the facts; students expect a certain level of mobility within the education environment.

Digital Content and Interactive Learning Solutions
Digital content is at the forefront of educators’ minds and strategies. Approximately 65 percent of school districts currently have a digital content strategy and 28 percent are developing one. According to a recent study, 74 percent of higher education students and 64 percent of K-12 students use digital content in the classroom.
In addition, 80 percent of higher education faculty and 66 percent of K-12 faculty use digital content in the classroom. Of those using digital content, 62 percent of students and 68 percent of faculty use it weekly. And 48 percent of students would like faculty to incorporate more digital content into the classroom as a learning tool. Teachers report that and 48 percent of students would online articles tied to instruction online lesson plans (30 percent), online video content (33 percent), online games (43 percent), sites (56 percent), online images (44 percent), and digital resources in the classroom are web-based.27 28

Digital textbooks have largely been defined or viewed as the digital version of the printed textbook. However, in the new digital age, textbooks no longer need to be oriented in the same fashion. They can be interactive and adaptive. For example, more school districts — like Highlands County School District in Florida — are using interactive software such as Digital Frog 2.5 and Froguts to dissect virtual specimens.29

Gaming is another area of growth. According to a recent study, 70 percent of K-12 teachers agree that using digital games increases motivation and engagement; 62 percent say that games make it easier for them to effectively teach a wide range of learners; and 60 percent report that games help personalize instruction, better assess knowledge and collect helpful data. In addition, 95 percent use digital games created specifically for educational use — 50 percent of the time they are used in connection with literacy/reading and 35 percent of the time they are used for math.30

To ensure that digital curriculum resources are being aligned with standards, educational institutions are banding together. On June 28, 2012, over 30 of the nation’s largest school districts came together and committed to use a set of shared, rigorous guidelines that align to the Common Core State Standards. The effort was done in collaboration with the New York City Department of Education and the Council of the Great City Schools. The districts serve 8 million students and spend $2 to $4 billion annually on instructional resources, including textbooks, online materials and other resources. The collaboration is leveraging its combined size and purchasing power to ensure that vendors create and sell materials that reflect the priorities outlined in the Publishers’ Criteria for ELA and Literacy, written by Student Achievement Partners.31

Digital learning and aligning digital curriculum resources to standards will continue to be a focus of conversation in 2013. Already, the federal government, in partnership with the Federal Communications Commission (FCC), has recommended digital content guidelines in the Digital Textbook Playbook.32 States have started to rewrite instructional materials allotment legislation to include electronic materials in traditional textbook funding streams; publishers are creating new interactive solutions and partnering with device providers; teachers and faculty members are creating their own digital curriculum content; consortia are aggregating data and digital resources; and technology and curriculum leaders are championing efforts to develop and maintain digital content repositories.

Online Assessments
Online assessments resulting from the Common Core State Standards will largely affect K-12 school districts and their approaches to student testing. Forty-five states, including Washington, D.C., are committed to the Common Core State Standards. The two assessment consortia leading the online assessment efforts are the Partnership for the Assessment of Readiness for College and Careers (PARCC) and SMARTER Balanced. Both consortia have similar objectives and strategies for K-12 literacy, writing and math standards. Schedules for implementation are parallel. The initial testing phase as an opt-in trial is set for Spring 2013 and full implementation is targeted for the 2014-2015 school year.

School districts face a number of issues to support the online assessment piece of the Common Core, notably providing a sufficient number of computers and Internet access. According to a study by the Center on Education Policy, 24 states are challenged by a lack of school computers, 25 states are challenged by inadequate Internet access and bandwidth, 21 states are challenged by a lack of state education agency expertise to address technology problems, 22 states are challenged by a lack of school and district expertise to address technology problems and 21 states are challenged by security issues to protect online assessments.33

The Louisiana Department of Education used the PARCC Technology Readiness Tool to gather baseline data statewide for online assessments. Findings indicate that the state has over 197,000 computer devices with only 67,038 meeting current technology readiness specifications required to administer online tests. This means a possible purchase of almost 130,000 new devices. The data also shows that although 100 percent of schools have Internet access, 98 percent report experiencing Internet or network congestion, school-level network hardware that limits connectivity, limited to no bandwidth for wireless access in school sites and dwindling IT staff to support technology expansions.34

To help schools and districts prepare for online assessments, the two consortia released joint technology purchasing guidelines to provide an outline for hardware and operating system procurement. For example, the guidelines recommend that computers run at 1 GHz or faster and have at least one GB of RAM. The devices recommended are desktops, laptops, netbooks, thin clients and tablets that meet the hardware,
operating system and networking specifications. For more information, visit www.parcconline.org/technology.

**Educator Evaluations**

Efforts to improve public education have been more closely linked to conversations around teacher evaluations. The first two rounds of Race to the Top were aimed at attracting and maintaining quality teachers by revising teacher evaluations. Building on that movement, the Obama Administration proposed, but was unable to enact, a new Race to the Top in 2012 that would incorporate evaluations for administrators and school board members. Nonetheless, states and education groups across the nation are working on improving evaluations. For example, the Pennsylvania State Education Association is developing a new teacher evaluation system with the goal of more accurately measuring teacher effectiveness. In July 2012, the Pennsylvania Legislature passed a law establishing the framework for the educator evaluation system, which will be implemented for classroom teachers in the 2013-14 school year and non-teaching professional employees in 2014-15. Teachers will be evaluated on planning and preparation, classroom environment, instruction and professional responsibilities. Non-teaching professional employees will be evaluated on planning and preparation, educational environment, delivery of service and professional development.

According to a study by the Stanford Center for Opportunity Policy in Education, there are number of criteria that an effective teacher evaluation system needs. The study reports that an evaluation system should be based on professional teaching standards sophisticated enough to assess teaching quality across a range of teaching expertise; value and encourage teacher collaboration; have a panel of teachers and administrators to oversee evaluations; and include multi-faceted evidence of teacher practice, student learning and professional contributions.

**Online and Blended Learning**

K-12 and higher education institutions are offering students more opportunities for online and blended learning. According to a recent study, 15 percent of K-12 instructors and 37 percent of higher education instructors have been using distance and virtual learning more frequently in the past two years. Teachers believe technologies that enable a blended learning environment increase student motivation to learn, reinforce and expand on instructional content being taught, address a variety of learning styles, introduce new activities, and provide additional practice to struggling learners. K-12 and higher education institutions are using lecture capture and video on demand to deliver instruction virtually. More than half of higher education students and almost one-third of K-12 students use recorded class lectures as a learning tool. Additionally, higher education students say that the top technology they would like to see more of in the classroom is recorded class lectures. According to the Center for Digital Education’s 2011 Digital Community Colleges Survey, approximately 79 percent of community colleges provide secure online lecture capture for use by faculty and students, and 72 percent provide support for lecture capture set up and production.

Fifty-six percent of K-12 school districts report that videoconferencing is now part of their classroom technology standard to aid online learning. Another study shows that 33 percent of K-12 and higher education students, and 31 percent of faculty have used videoconferencing in the classroom. Overall, students would like faculty to incorporate more videoconferencing into the classroom as a learning tool.

One of the main tools to access and manage online learning resources is a learning management system (LMS). Approximately 56 percent of students...
and 58 percent of faculty use a learning management system in blended learning environments. Higher education students (72 percent) and faculty (67 percent) are more likely to use an LMS than K-12 students (40 percent) and faculty (49 percent).44

Blended learning is becoming a standard in education. There is perhaps more growth opportunity in K-12 than higher education since higher education was the earlier adopter, however, both levels of education will continue to grow their portfolio of online offerings.

Cloud Computing and Virtualization

According to a recent study, the personal cloud will replace the personal computer as the center of a user's digital life by 2014.45 Cloud-based services are on the rise. The most commonly implemented cloud computing services for school districts are assessment and testing (59 percent), learning management systems (56 percent), productivity tools (55 percent) and email (54 percent).46 Enterprise resource planning (29 percent), email (27 percent) and classroom productivity tools like word processing (23 percent) are the top areas that school districts are considering or planning to use cloud-based services for. According to the Center for Digital Education's 2011 Digital Community Colleges Survey, 75 percent of community colleges use cloud-based email, 68 percent use a
cloud-based learning management system, and 64 percent use a cloud-based assessment and testing system. Ten percent of all higher education institutions host their servers off campus, with either a multi-campus system, a shared or state/consortia facility or a commercial data center.47

A recent study found that 31 percent of K-12 IT professionals and 34 percent of higher education IT professionals report that they need to invest in virtualization in order to accommodate and incorporate more classroom technologies.48 According to the Center for Digital Education's 2011-12 Digital School Districts Survey, 43 percent of responding districts have implemented or are implementing server virtualization, and 26 percent are considering or planning to undertake a server virtualization initiative.49

Desktop virtualization, especially in K-12, is growing in implementation. Approximately 25 percent of responding districts have implemented or are implementing desktop virtualization and 48 percent of responding districts are considering or planning to undertake a desktop virtualization initiative.50 Desktop virtualization enables institutions to run desktop environments in the cloud and deliver personal desktop environments to students regardless of the device they use. Approximately 60 percent of community colleges have desktop virtualization in place.51

**Data Management**

In order to make better use of data, educational institutions are embracing dashboard technologies. Approximately 67 percent of responding school districts to the Center for Digital Education's 2011-2012 Digital School District's Survey use a data dashboard to digest their content in an easy-to-consume format.52 In addition, 18 percent were in the process of implementing a dashboard at the time of the survey. Of those who are in the process, just under half will be utilizing those dashboards by the beginning of the next school year. Community colleges use dashboards for a variety of student performance functions, such as an SIS administrator's view (57 percent), mid-course assessments (24 percent), student progress reports (53 percent), student retention reports (76 percent), faculty performance (27 percent), and IT systems and services (93 percent).53

Dashboards are developed as off-the-shelf (56 percent), in-house (44 percent), customized (31 percent) and open source solutions (18 percent).53

Ten percent of all higher education institutions host their servers off campus, with either a multi-campus system, a shared or state/consortia facility or a commercial data center.47 A recent study found that 31 percent of K-12 IT professionals and 34 percent of higher education IT professionals report that they need to invest in virtualization in order to accommodate and incorporate more classroom technologies.48 According to the Center for Digital Education's 2011-12 Digital School Districts Survey, 43 percent of responding districts have implemented or are implementing server virtualization, and 26 percent are considering or planning to undertake a server virtualization initiative.49

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**K-12 Mobility**

- **34%** OF TEENS OWN A TABLET COMPUTER.
- **100 PERCENT** OF K-12 IT MANAGERS SURVEYED EXPECT THEIR SCHOOLS TO HAVE A ONE-TO-ONE DEVICE-TO-Student RATIO WITHIN THE NEXT 5 TO 10 YEARS.
- **86 PERCENT** OF TEENS REPORT THAT THEY ARE LIKELY TO PURCHASE A SMARTPHONE FOR THEIR NEXT DEVICE.

Source: Piper Jaffray 23rd Semi-Annual “Taking Stock With Teens”
The exponential growth of digital curriculum and data in education means that teachers need to spend more time searching and selecting relevant materials to use in class. Some campuses are beginning to establish a new role as digital curator. This role is being created because of the need to have some type of filtering for the massive amount of digital content that exists. As it stands now, this curator could be a teacher, a district instructional technologist or even a complete role entirely.

**Professional Development**

Another area of significant focus is professional development to ensure that instructors and staff have the knowledge and tools to support a 21st-century learning environment. More often than not, technology leaders find that products are useless if implemented without the proper level of training.

Virtually all districts are providing technology professional development for their instructional staff. Approximately 61 percent of districts provide ongoing technology professional development and 36 percent provide training once per year. Training includes integration practices of education technology into the classroom and lesson plan, training on hardware and software, and training on administrative tools, such as an SIS and LMS. Training is accessed online and on demand (87 percent) as well as through mentoring or peer support (85 percent). Approximately 97 percent of community colleges provide technology skills training for full- and part-time faculty.

Seventy-six percent of K-12 and higher education IT professionals report an increase in faculty requests for help with technology integration and related professional development. The top three areas of requests for professional development were training on specific technologies in the classroom (61 percent K-12, 53 percent higher education), training on instructional software (42 percent K-12, 41 percent higher education) and guidance on integrating technology into classroom instruction (43 percent K-12, 32 percent higher education). Professional development goes beyond just the faculty and staff. Schools districts are increasingly providing students with training on Internet safety (98 percent) and cyber-bullying (97 percent). Findings from a recent study found that in order to be successful, principals need high-quality mentoring and tailored professional development within their first years on the job as well as pre-service training to prepare them to lead improved instruction and school change. When proper technology professional development is in place; teachers are able to better deliver a lesson, students are more informed digital citizens and administrators effectively implement technology that is aligned with learning objectives and standards.

**Looking to the Future**

If one thing is true, it's that education technology will continue to evolve and campuses will constantly be implementing innovative solutions to improve learning.

2. The Center for Digital Education's 2011 Community Colleges Survey
5. Ibid.
8. www.ced.org/programs/innovation/kidscenter.html
12. The Center for Digital Education's 2011 Community Colleges Survey
14. www.educationonnews.org/technology-online-video-increasingly-used-as-a-teaching-aid
15. www.eschoolnews.com/files/2012/05/Roadmap-For-BYOD-Adoption-ESG-WP.pdf
19. The Center for Digital Education's 2011 Community Colleges Survey
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24. Ibid.
30. Teacher Attitudes about Digital Games in the Classroom, The Joan Ganz Cooney Center at Sesame Workshop, 2012
32. www.ftc.gov/encyclopedia/digital-textbook-playbook
34. www.tousianschools.net/footprint/
35. www.psea.org/general.aspx?id=942&SID=7-46
41. The Center for Digital Education's 2011-2012 Digital School Districts Survey
49. The Center for Digital Education's 2011 Digital Community Colleges Survey
51. The Center for Digital Education's 2011 Digital Community Colleges Survey
52. The Center for Digital Education's 2011-2012 Digital School Districts Survey
53. The Center for Digital Education's 2011 Digital Community Colleges Survey
55. The Center for Digital Education's 2011 Digital Community Colleges Survey
57. The Center for Digital Education's 2011-2012 Digital School Districts Survey
When profiling the following 50 educators, one thing that constantly surfaced was that technology does not transform learning itself. It is an aid and a tool to effective, creative instruction that only can come from properly trained and innovative instructors. This is our chance to highlight the hard work and tireless efforts of some of these innovators. Although the latest and greatest technology often steals the spotlight, we know that without the dedication of these education technology leaders, the transformation to teaching and learning sweeping the nation would not be occurring.
Jon Dorbolo
Associate Director, Technology Across the Curriculum (TAC)
Oregon State University

Dorbolo was named 1996 MultiMedia Educator of the Year by the Oregon Multi-Media Alliance, received the OSU Extended Education Faculty Achievement Award, is the former president of the International Association of Computing and Philosophy, and is the former editor of the American Philosophical Association’s Philosophy and Computers Newsletter. Dorbolo’s tireless efforts in support of OSU’s Technology Across the Curriculum (TAC) program have led to wider faculty engagement in the use of technology in teaching and learning. TAC’s Generating Educational Mastery program also supported this effort by providing just-in-time online training for faculty seeking information about applications they work with on a daily basis, including BlackBoard, PowerPoint, Quizdom, Podcasting, Microsoft Office and video production. As a long-time philosophy instructor and in addition to his TAC duties, Dorbolo created OSU’s first Web-based course in 1994 and is currently co-developing a virtual world for immersive education. Dorbolo recognizes that IT holds a critical role in all areas of academic life and believes that while IT is not a primary concern for most disciplines, it is impractical to pursue research, scholarship, teaching and learning in the 21st century without adequate IT skills.

Dan Majchrzak
Director
University of South Florida

Majchrzak is the leader of USF’s Advanced Visualization Center (AVC). Opened in Spring 2012, the AVC — with 16 high-resolution stereoscopic 3D monitors — allows students to view and create stunning visuals for lectures, projects and presentations. The “visualization wall” is the first of its kind in the state of Florida; students are able to interact with the wall and display data in a whole new way, encouraging greater understanding and helping students bring concepts to life that may be difficult to grasp via text and other traditional mediums. For example, the large-scale display can bring life-sized visual models of ancient monuments into the classroom. Through the expertise of the center staff, 3D data scans of the monuments are transformed into visualizations and digital rubbings. Since these monuments are physically inaccessible to students, the center gives them an opportunity for detailed study that would not otherwise exist. With a resolution of over 20 megapixels (more than twice the resolution of an IMAX theater), the system is specifically designed to enhance interaction in instructional settings. Students will not only be able to view visualizations that cannot be viewed in other facilities, but they will be able to manipulate virtual representations of objects. The AVC also includes a visualization computer lab, where each station has two 3D monitors, drawing tablets and a full array of sophisticated visualization software. Most importantly, the center employs visualization specialists who can train students in the software and complex workflows needed to create their own visualizations. This specialized technical training enhances student employment opportunities in many different fields.
Bockwoldt developed a cutting-edge program called the Educational Technology Replacement and Initiative Program (ETRIP). The program was developed to ensure Township District’s infrastructure and computer hardware remains consistent with current technology, and that the replacement of faculty, staff and lab computers follows a clearly defined process. The unique aspect of the program is that it introduces a new way for teachers to drive educational technology innovations, as teachers are now responsible for submitting proposals for new technology. Because of this, mobile device use has expanded. Bockwoldt calls it “The Flipped 1:1 Implementation.” The program continues to gain popularity and assist in achieving the district’s three non-negotiable goals: achievement gap, student success rates and advanced placement. The new digital curriculum implemented because of Bockwoldt’s system has led to a huge increase in the number of students enrolling in — and successfully passing — the AP Economics pilot program. With Bockwoldt’s system in place, teachers continue to expand the reach of the program by training new teachers who receive mobile devices. The program has also increased student achievement, as students now have access to 24/7 learning and are more engaged in the curriculum. The digital curriculum created an excitement in the students that exceeded Bockwoldt’s expectations.

Karen Rue
Superintendent
Northwest Independent School District, Texas

Rue recognizes the importance of technology, which is reflected in Northwest ISD’s initiatives, her own use of technology and her leadership in state education initiatives. Under her leadership, Northwest ISD has standardized classroom technology to include mounted projectors, document cameras, wireless chalkboards and wireless access. All teachers have received laptops with docking stations, and all secondary students have been issued netbooks. She has also arranged for six instructional technology teachers to provide training and technology integration support to all campuses. Rue is leading a transformational change in education at Northwest ISD and in Texas to ensure that all students are equipped for the digital age. She was part of a group of 35 superintendents from across the state who contributed to “Creating a New Vision for Public Education in Texas: A Work in Progress for Conversation and Further Development.” This document led to the Texas legislature passing Senate Bill 1557, establishing the Texas High Performance Schools Consortium. Under Rue’s leadership, the district also developed criteria for its “Profile of a Graduate,” which outlines the expectations for high school graduates, the development and testing of core rubrics and summative assessments aligned with 21st-century learning skills, and the design of a Digital Graduate Portfolio to provide ongoing support and evaluation of student success.

Ruth Ibarrondo
Bilingual Pre-K Teacher
Western Hills Primary, Texas

As a bilingual pre-kindergarten teacher at Western Hills Primary School in Texas, Ibarrondo seeks ways to engage her bilingual- and English-only students in her classroom lessons, which has increased student scores. Ibarrondo strives to include technology-related materials available in Spanish, and has developed a set of videos for thematic instruction, rhymes, the alphabet and sounds. Her videos are created using clipart and photos, and Ibarrondo synchronizes these graphics with relevant theme sounds. With the help of these videos, students are engaged in interactive role-play and are guided through imaginative scenes to help them learn. Ibarrondo even creates personalized videos and lessons, which fosters high student engagement. Students are provided with a copy of the personalized videos on DVD to watch and review at home, and by the end of the year are typically able to write complete sentences. Ibarrondo’s personalized lessons and videos have been so successful that student scores rose dramatically across the board in language areas from the beginning of the year. Ibarrondo encourages other technology leaders to let go of Industrial Age teaching methods and instead to provide students with the knowledge of how to use the tools of this era. She states that leaders need to enhance research and move to publish information about what is known to work, while still continuing to experiment with current and emerging educational technologies.
Jessica Swanson

**STEM Lab (CTACE) Teacher**
*Gulfstream Middle School, Fla.*

Swanson is dynamic and proactive in her work at Gulfstream Middle School. She has been the backbone of the STEM Academy and the growth of the school’s student population. She provides hands-on technology and engineering classes, robotics and engineering clubs, as well as robotics/race car activities in an effort to reach the entire school population. Even though 90 percent of the students receive free or reduced lunch, Swanson notes that all of her students have been completely energized by the brand-new technology provided to them and by the engineering program offered at the school. Through hands-on, problem-based activities and 3D CAD modeling in the classroom, her students have become inspired. As a result, their engineering lab is now a certified RhinoFAB Lab, a distinction normally reserved for post-secondary institutions. Swanson is a prime example of a lifelong learner, as she was specially trained to move from her science classes last year to the CTACE (Career, Technical, Adult and Community Education) lab this year. She stresses the importance of continuing education, and feels that she has saved hours of work for herself and her students by conducting professional development up front before the technology hits the classroom. She says the key is to not simply validate what is familiar, but to try to change. As an innovator, she is always looking for something new to improve her teaching.

Steve Nelson

**Chief IT Strategist**
*Oregon Department of Education*

Over the past six years, Nelson has led the successful implementation of the Oregon Virtual School District (OVSD). As part of OVSD, he created a unique set of online learning services that are now used by 130 school districts and over 263,000 teachers and students at no charge to the districts or schools. OVSD core services include Google Apps for Education and a hosted portal built on open source applications. The portal offers online courses from Florida Virtual School and NROC that are taught by schools trained and supported by the OVSD family of educators. All of this was realized in partnership with Oregon State University’s (OSU) Open Source Lab, which provides OVSD with hosting and development services. OVSD runs entirely through public partnerships with OSU, Oregon’s education service districts and the Florida Virtual School. OVSD has been able to double the value of the $1.5 million in biennial funding it receives from the legislature through creative efforts with companies like Google, Intel, Cisco, NROC, The SAS Corporation, Smart Learning and Common Sense Media. Nelson credits the work of his colleagues for the successful implementation and expansion of OVSD, in particular professionals like Rachel Wente-Chaney, Corin Richards and the OSU-OSL engineering staff led by Curt Pederson and Greg Lund-Chaix. According to Nelson, these people “represent the best in collaboration and cooperation that is essential when delivering shared education services.” By providing new online options for students, and teaching digital citizenship and online safety, OVSD helps give students a secure, successful and enlightening Internet learning experience.

Sherri Hammons

**Chief Technology Officer**
*Colorado Governor’s Office of Information Technology*

Hammons believes in the importance of making data available across agencies in order to make more informed education decisions. Led by Hammons, the Colorado Governor’s Office of Information Technology, in collaboration with the Colorado Department of Education, has embarked on an ambitious program, Relative Information to Strengthen Education (RISE). One of the main objectives of RISE is to extend the current K-12 statewide longitudinal data system to encompass P-20 education. This will help transform education across the state by improving access to data for more meaningful analytics. Essential to the success of RISE is an equally ambitious project to apply master data management principles and technologies to the sharing of data across state departments and agencies. This pivotal project was envisioned, framed and is being personally led by Hammons as part of an overarching initiative to improve information sharing across all Colorado public agencies. Because of Hammons’ efforts, Colorado is now able to aggregate and analyze authoritative data across its education, social services and corrections agencies to reach better conclusions on how to empower students and extend college access to the disadvantaged, among many other things.
Oakley is an instructional development specialist for the Kentucky Academy of Technology Education (KATE), and has worked as a teacher and technology director in schools and programs around the world. In her current role, Oakley helps to maintain and monitor the Technology in the Classrooms of Kentucky (TICK) database, which provides instructional technology resources and lessons to meet the Kentucky curriculum standards and the Common Core State Standards. Oakley is a certified Microsoft Innovative Educator and has trained over 250 educators across the state. She has touched the lives of many educators throughout Kentucky by encouraging and motivating them in the use of instructional technology.

Many teachers would still be using older teaching methods if not for the assistance and inspiration given to them by Oakley. Using Twitter, Facebook, listservs and the KATE website, she is constantly sharing information with those who seek her wisdom and experience in the area of educational technology. Through her training of K-12 teachers, her sharing of experiences with students, and her support and influence on faculty and student teachers, Oakley has significantly improved education through technology in Kentucky and around the world.

Bowen is the driving force behind the creation of Purdue's Studio Applications, a suite of tools that bolsters engagement inside and outside the classroom using technology already familiar to students. Hotseat, for example, uses student comments and a Twitter-like forum to enhance classroom discussion. It adds a backchannel of communication that allows students to pose questions or comments about course materials without interrupting the flow of the lecture. Students can vote on questions to get them moved up in the feed. Moreover, an instructor can follow the discussion and address areas of confusion or provide additional examples to clarify a point, adding a new classroom dimension that promotes accuracy and corrects misinterpreted information. Although many of today's classroom learning tools have a prescribed use, Purdue's open-ended suite allows instructors flexibility to incorporate the applications in ways that best fit their course content and teaching styles. The increased student interaction and engagement enabled is proving to have a positive effect on retention of lecture information and grade performance. Additionally, many professors have extracted valuable data through students' use of these tools — data that can help improve their teaching. The deployment of Studio Applications was a collaborative effort, with the recruitment and retention of highly qualified and talented contributors being crucial. Bowen's work is supported by Purdue faculty, who help identify instructional needs and willingly incorporate technologies into their classrooms. The team's strategy hinges on developing minimum viable products with open-ended capabilities, enabling instructors to use them as they best see fit for their own particular courses.
Witherspoon is the new principal for Our Lady of Lourdes Catholic School and already has set goals to progress the school forward with technology and 21st-century learning. In her short time as principal, she has already updated the wireless infrastructure and made changes to the network structure. She works with teachers on instruction in the classroom and provides weekly workshops on instruction with technology. In addition, Witherspoon has redesigned the curriculum in existing technology classes and has brought in new equipment to put technology in the hands of students. Under her leadership, her school has flipped its middle school math classes, and students are now communicating across the board via email, discussion boards and blogs. Through this process, students are learning to collaborate online and produce multimedia presentations. Witherspoon brought a similar attitude of progress in her previous position as technology coordinator at Good Shepherd Catholic School. While there, she not only won teacher of the year, but also implemented the school’s very successful BYOD program. In her time as a teacher, technology coordinator and principal, Witherspoon has transformed traditional instruction into project-based learning. Her modifications to instruction, curriculum and assessments have helped to increase student scores on standardized tests, and have helped to improve the overall success of students.

The Learning Technology Department at Metropolitan Nashville Public Schools was formally established in 2010, and since then has successfully designed and implemented the first full-time virtual high school in the state of Tennessee. The 11-team department has also re-designed learning environments in 10 schools to be more collaborative and inclusive of instructional technology through the RTTT-funded Leading with Learning Environments sub-grant; implemented blended learning in all 23 high schools; established a best practice video library called MTube with more than 400 effective practice videos; and created online professional development courses. Additionally, the department has worked to improve education through the use of technology for both teachers and students. Teachers now have access to a tremendous resource of best practices videos and 24/7 online professional development, as well as on-call instructional designers housed within the department. Students have access to completely re-designed learning environments where comfortable tables and chairs with plug-and-play access have replaced hard, uncomfortable desks. This more college-like environment gives students an idea of what collaboration is really supposed to look like. Elementary and middle-school students stated that school is so much better now that they have access to technology. Student test scores have also increased in the schools where the Learning Technology Department was heavily involved. For instance, the blended learning environment in high schools increased the graduation rate from 50 percent to over 80 percent.

Glenn developed and instituted virtual curriculum in her district that has affected thousands of students. She had a vision of developing a statewide organization to bring other districts together and share best practices, not only for established virtual schools, but for the new ones coming online as a result of state legislation. This vision came to fruition in the Florida Digital Virtual Provider Network, of which Glenn is the founder and president. She is now leading the newly formed board in planning the second statewide conference targeted solely at K-12 virtual education in Florida. Glenn has significantly improved education by customizing virtual instruction for her district as well as providing a model for the rest of the state.
William Johnsen
Director, Instructional Technology
Virginia Beach City Public Schools, Va.

As director of Instructional Technology for Virginia Beach City Public Schools, Johnsen has been a part of a team that integrated technology into the instructional program. Now the school division’s strategic plan, Compass to 2015, includes language that specifically states that technology is to be used in the classroom that will motivate students to be self-directed and inquisitive learners. Under Johnsen’s direction, his team not only worked with technology in the classroom, but also supported the library program, a school planetarium and distance learning opportunities for students. While the school division has no full-time online enrollment, it provided online learning for about 890 students in last year’s summer school. Johnsen’s words of advice for technology innovators are to remember that it is not all about the technology. He states that while skills in the use of technology must be taught, the purpose of technology in instruction is to help teachers provide rigorous, relevant and engaging instructional opportunities for students. With this in mind, Johnsen’s division has spent significant time working with schools to implement the TPACK model for planning. The model suggests that one should consider the content being taught, the most appropriate pedagogy for the content and then determine what the best technology should be. The point of this model is to encourage a purposeful use of the most appropriate technology available to meet the instructional task.

Suzanne Farmer
Math Intervention Teacher, Grades K-5
Toliver Elementary School, Ky.

K-5 Math Intervention Specialist Suzanne Farmer’s hard work has yielded three key achievements to enhance math learning for all students at Toliver Elementary School. First, Farmer has guided the restructuring of how kindergarten math is taught, moving to a model that combines small-group instruction with intelligent adaptive learning technology from DreamBox. This approach allows 20 students in three classes to access DreamBox Learning Math once a day, with an average of six students in each group. The digital learning centers are a big hit among students, as the experience is highly motivating and engaging. Secondly, Farmer expanded the deployment of DreamBox Learning Math from the standard school day into the district’s Extended School Services (ESS) program, designed for students who require extra after-school instruction. Lastly, Farmer created an innovative math leadership club for high-performing 5th-grade girls who exhibited reluctance to participate in class. Farmer is proud to have recently been named as a Presidential Award for Excellence in Mathematics and Science Teaching (PAEMST) State Finalist. The PAEMST process “forced me to grow as a math educator through intensive self-reflection and analysis of student learning,” says Farmer. “My project helped me to make my students more independent and self-reflective.” Farmer believes that being a finalist for the award also allows her to be a model for her students in continuing their education and setting high personal goals.

“School divisions must be looking forward to how to use the technologies that engage students, but in a controlled and deliberate manner.”

“Individual interactive technologies with dynamic assessments, like Dreambox, are a powerful tool for teachers. They are a great way to increase individual instruction and allow a teacher to work with smaller groups.”
Nina Levine
Library Media Specialist
Hendrick Hudson School District, N.Y.

Levine transformed the Library Media Center at Hendrick Hudson High School into a true 21st-century learning space. Under her direction, the library is now a dynamic center of resources that adapts and grows to meet the needs of the over 900-student body. At any given hour, you will find students working independently or collaboratively supported by resources in all media formats. A mobile laptop center was also acquired to be used in classes on various projects across the curriculum. Levine is successful in part because she teaches her students and colleagues the meaningful use of technology in the context of their academic, work and personal pursuits. A lifelong learner, Levine remains curious about the learning process, and seeks opportunities to share ideas, ask questions and learn from others. As the school librarian, she acts as a leader and an innovator. She has expanded the library to include a robust collection of databases and e-books, and she has trained staff and students on the effective use of those tools. Levine encourages other educators to teach students to learn independently, and she also stresses the importance of the process more than the product.

Audrey Cucci
Teacher
Frankfort-Schuyler Central School District, N.Y.

Cucci has been instrumental in the updating and integration of educational technology at Frankfort-Schuyler Central School District. She has brought in the latest technologies for the students and offers additional assistance for them during the summer so that they will be prepared for the start of the new school year. Cucci has inspired students and has helped shape national educational conversations, a feat which led her to be identified as a “20 to Watch” educator for 2011. Under her leadership, New York math assessment scores have increased every year due to adoption of technology in math classrooms. Cucci works hard to keep up to date with her students interests and takes care to bring those interests to life in her classroom. She most recently created a flipped classroom where students now spend more time in class experiencing hands-on, real-world applications. By posting her lectures to YouTube and requiring students to view the lecture prior to class, Cucci has created an environment of discovery and communication among students. Cucci advises other education technology leaders to realize that change is good! She cautions against teaching the same lessons year after year due to simplicity. Cucci’s best advice for educators is to make a goal to try something new in the classroom each year. She also encourages teachers to let students be a part of the process, and asks them to invite students to tell teachers how they would like to learn and how they are willing to help make it work. This type of thinking is what makes her an innovator in today’s education environment.

“Students and teachers can leverage the power and flexibility of Evernote to collect, create and organize information, documents and resources. Accessible across digital devices and platforms, in school and at home, Evernote is truly a tool for 21st-century learning.”

“TI-Nspire technology has changed the type of teacher I am. I no longer spend hours up at the front of my room talking at my students.”
Thomas Woodward

Assistant Director, Instructional Technology
Henrico County Public Schools, Va.

Woodward's work at Henrico County Public Schools has become an international model for rethinking the integration of education and technology at the curricular level. He deliberately seeks out ways technology can be used to transform instruction. His leadership at Henrico is evidenced by several initiatives, including: 1) active involvement in the development of the Teaching Innovation Progression Chart, a rubric used to influence and evaluate modern teaching and learning; 2) Leadership of Reflective Friends, a model for building capacity and holding schools accountable for outcomes; 3) maintenance of a blog, Bionic Teaching, to stimulate discussion about emerging trends in education technology; 4) project leadership on the creation of a digital curriculum to replace textbooks and provide content-specific performance assessments for HCPS; and more. Woodward is a member of the Virginia Society for Technology in Education (VSTE) board and is the current VSTE Educational Leader of the Year. In addition, he is a sought-after national presenter and his work has been published internationally. He has also worked with ISTE, testified at the Open Educational Review Board, helped design the #DS106 Massive Open Online Course (MOOC), presented to faculties at a variety of colleges and universities, and is an Apple Distinguished educator.

Caren Zayde Moncher

Executive Director
New York City Department of Education, Division of Nonpublic Schools

Zayde Moncher has led the transformation of how instructional services are delivered to over 20,000 Title I students across 275 nonpublic schools in New York City. She has provided 21st-century tools to every participating Title I student, and has ensured that each student has access to laptops in a 1:1 environment. By drawing upon best practices, she created a robust blended learning platform which provides relevant content from 16 providers, allowing instruction to be aligned with the Common Core State Standards. Teachers, Title I students, administrators and parents are now able to access content and data through a single dashboard that provides information on an individual student’s achievement. Zayde Moncher advises that building true partnerships with the organizations providing services to Title I students and teachers is crucial for success. Her leadership has led to a sustainable transformation, and has made a huge difference in the lives of thousands of students and teachers.

John DeAngelo

Director of Educational Technology Services
University of California, San Francisco

As the former associate dean for Information Technology at Temple's Fox School of Business, DeAngelo was one of the first college-level CIOs and supervised the installation of some of the largest lecture capture projects in the country. During his time at Temple University, DeAngelo was co-chair of the Fox School Alter Hall Planning Committee where he helped design and implement all instructional elements of the $80 million, 217,000 square-foot building, which included $8 million for audio-video, computing and telecommunications infrastructure. He implemented Mediasite lecture capture technology in Alter Hall so that every lecture could be live-streamed. The building's entrance contains a large multi-image video wall that streams real-time lectures to draw visitors into the educational experience. Now at UCSF, DeAngelo has implemented Mediasite lecture capture for the school’s roughly 3,500 graduate medical students and health professionals. In just 10 months, UCSF recorded 2,050 presentations that received 63,000 views and 136,000 hours of viewing. Through DeAngelo’s efforts, faculty adoption of lecture capture technology is impressively high. He is now developing a 10-year strategic plan for classroom technology at UCSF and planning the technology infrastructure for a totally wireless anatomy lab and a $150 million annex to UCSF’s new hospital. DeAngelo is most proud of the way his work has influenced the culture of UCSF, which today embraces technological change and aggressively pushes the boundaries of technology-based health education.
Janet Leistner

Director, EVSC Virtual Academy
Evansville Vanderburgh School Corporation, Ind.

Leistner built Evansville Vanderburgh School Corporation’s (EVSC) Virtual Academy from the ground up. Her leadership and commitment resulted in increased student achievement, retention and enrollment from outside the district and in the homeschool community. The Virtual Academy now serves as a model program to be replicated for other institutions. The district recognized Leistner as a natural fit to serve as director, and she continues that passion for technology in her leadership of the Virtual Academy today.

Leistner knows that technology creates new avenues for learning and has sought opportunities to pilot programs that use new teaching methods. She serves as director of the high school summer program, which is designed for current-year seniors who need to take credits for on-time graduation. By utilizing online software in the school setting, the summer school team of administrators and teachers has helped 150 seniors successfully graduate during the past two years. Leistner suggests that the key to working with online curriculum is to provide clear explanations and expectations of best practices for student success. She also states that interaction with students and families is key to student success.

Courtney Hart

Coordinator of Assessment and Accountability
Lewisville Independent School District, Texas

Hart is an expert at using technology to analyze data. By using state databases with information on public K-12 schools she is able to compare LISD with other districts in Texas, and can specifically isolate out certain groups (by grade, socio-economic class, etc.) to see how they are performing. This has helped the district identify students who aren’t performing as well on assessments and tailor instruction to improve those students’ performance. Her utilization of software to compare statistics informs data analysis and leads to a deeper consideration of all variables involved. Consequently, policy and practice can be altered to better serve students. Hart maintains the district assessment website and creates training presentations to explain procedure, state guidelines, etc., to district staff. She also provides online training for the district with a verification system she created to assure attendance. Hart was chosen as the University of Texas at Arlington nominee for the American Association of School Administrators Scholarship for Educational Administration. If she wins the competition, she will use the scholarship to further her studies on assessment and accountability. Hart’s words of wisdom are to never give up. The hard work on the front end of a project will pay off, and the times of frustration with software will save a significant amount of work in the end.

“It is my sincerest hope that over time, as these students become the next generation of teachers, this will prove to be what Clayton Christensen would call a ‘Disruptive Innovation’ in education that will better prepare our students for global citizenship.”

50 innovators
Dr. George Araya
Director of Technology
Desert Sands Unified School District (DSUSD), Calif.

Dr. Araya’s most recent achievement includes enabling teacher and student access to 21st-century technology tools. Based on internal research, Araya was able to upgrade his district’s 180 servers to a VBlock Infrastructure platform, providing virtualization of old PCs for about 2,500 employees. Araya anticipates having thousands of students with computing devices in the classroom for the 2012-2013 school year. Earlier this year, Araya and his team were the only people from California singled out for their exemplary performance and data integration at the Schools Interoperability Framework (SIF) Association Annual Meeting. Under Araya’s leadership, DSUSD has seen an increase in student performance and test scores, due to the implementation of a robust data warehouse which allows for complete manipulation of assessment data and the ability to view information in a multi-dimensional form. Data is analyzed in real time, allowing for the immediate understanding and use of it in making instructional and administrative decisions. Araya advises other education technology leaders to organize priorities with a clear vision of all the resources needed to reach a goal. He has learned that focusing technology implementations on the benefit of student learning — and combining this with technology tools, strong leadership and teacher excellence — will provide amazing results.

Ryan Imbriale
Principal
Patapsco High School & Center for the Arts, Md.

Imbriale’s work to improve education is a daily passion. As principal of Patapsco High School & Center for the Arts, one of Imbriale’s main missions was to take the school from being successful to exceptional. To do this, he immediately started looking at the school’s individual student pipeline data to make appropriate placements for all students. Part of this process also included being a pilot school for a fully digital curriculum in science that was a collaborative effort between the school system and the local community college to help prepare students for their first year of post-secondary education. In addition to piloting digital curriculum, Imbriale led his team to launch a very successful social media marketing campaign, and uses YouTube, Facebook and Twitter to constantly communicate and share news with the community. Under Imbriale’s leadership, teachers at Patapsco are now comfortable using wikis to flip the classroom in English, vokis to help teach Chinese, and YouTube video clips to reinforce concepts in biology and chemistry. Imbriale also led a program that allowed Patapsco students to teach dance to elementary school students remotely via Skype. Imbriale wants other education leaders to push the envelope, but to do so with a clear plan and competent team. He cautions that without those things, even the best plans can fall apart. Imbriale also recommends that technology leaders surround themselves with people who will help to challenge and question decisions to help make the end result better.

Todd Yarch
Principal, VOISE Academy
Chicago Public Schools, Ill.

Along with being a frequent speaker at national meetings on the use of blended learning, Yarch has led the implementation of an innovative, fully blended and technology-rich high school in one of Chicago’s most underserved neighborhoods. In 2008, Yarch was given the opportunity to help build and lead VOISE Academy, one of the first blended learning schools in the country. Yarch and his colleagues felt that by providing students with a rigorous online curriculum and engaging digital tools, they could better help the students succeed at high levels while preparing them for college. VOISE Academy uses an online curriculum combined with the most innovative digital tools to engage and motivate students. But to Yarch, the success of VOISE Academy is really attributable to the relationships and bonds that teachers are able to create with their students — “the core of the model,” in his words. Yarch believes the blended learning model provides students, especially those in urban communities, with the opportunity to build relationships and engage with teachers and instructors in ways they never thought were possible. This past June, VOISE Academy graduated its first class, a phenomenal achievement for the students, the community and the concept of blended learning. With over an 80 percent graduation rate, VOISE Academy’s inaugural class demonstrated what could be accomplished with a dual commitment to innovation and engagement.

“In a community like ours, access to the Internet is a constant battle we fight for our students.”
Steve Anderson

Director of Instructional Technology
Winston-Salem/Forsyth County Schools, N.C.

Anderson serves as district instructional technologist for Winston-Salem/Forsyth County Schools. He has been a presenter at several educational technology conferences, and was a featured speaker at the first ever #140Edu Conference, which focused on real-time Web in education. Anderson was also recently named an ASCD Emerging Leader for the 2012-2013 school year. Anderson leads the charge for change and innovation for students, staff and schools within the district. He is very passionate about social media, and believes it has great impact on student engagement and achievement. As a founding creator of the #edchat weekly discussion on Twitter (a chat with over 500 weekly participants), Anderson provokes others to think outside the box. In collaboration with Kimmel Farm Elementary School, Anderson brought social media into the classroom, and helped establish a set of guidelines to ensure safe and ethical use. The implementation of this project established Kimmel Farm Elementary as the first North Carolina school that includes teaching social media in its school improvement plan. Recently, Anderson collaborated with Facebook and Edutopia to publish an article on how to establish social media guidelines in schools.

John Hendron

Supervisor, Instructional Technology
Goochland County Public Schools, Va.

Hendron serves as the chair of the innovations committee of the Virginia Society for Technology in Education, and provides leadership for an organization of over 5,000 members. His book, “RSS for Educators,” is used in teacher prep programs to improve instruction through integrated technologies. In his district, Hendron provides leadership and vision for instruction as part of the instructional leadership team. In the 2011-12 school year, he developed a 21st-century classroom model that took away desks and replenished two classrooms with tables, an interactive whiteboard, 15 iPads and 15 MacBooks for students. This experiment has shown success with student-centered approaches. Hendron’s commitment to school and district improvement puts him in face-to-face contact with each teacher and principal in the district when planning innovative projects that use technology to engage and empower students with higher-level cognition and creativity. Through Hendron’s leadership, each student in Goochland County, Va., is engaged with topics of digital citizenship on an annual basis. He has organized a “digital citizenship day” with age-appropriate focus levels that teach Internet safety, digital commerce, security, ethics and social networking. In addition, Hendron offers over 30 workshops each school year to teachers that focus on technology integration. To help empower administrators, he developed an observation tool in 2011 using FileMaker Go and FileMaker Server. One of the greatest ways Hendron is driving student success, however, is through the G21 program — an effort that brings 21st-century skills awareness to each school. Hendron helps the district recognize these successes with teacher awards. In the 2011-2012 school year, a new level of school-wide awards was created for school-wide projects. In 2012-13, individual student projects focused on building workplace readiness skills across the age spectrum will be recognized.
Under Alander’s leadership, Lone Star College System has developed one of the largest private clouds in higher education, positioning it to provide students with anytime, anywhere, any device access to learning resources. What began as an infrastructure upgrade project designed to replace an unstable ERP system and end-of-life data center hardware eventually expanded when Alander saw the opportunity to build a private cloud. He brokered partnerships with industry leaders HP and EMC and empowered his team to take risks and explore options. Focusing on server consolidation, dynamic and flexible data storage, network load balancing and federated identity management, Alander’s team achieved 85 percent virtualization in the first year — and saved $1.4 million in hardware, storage and licensing costs. The new infrastructure earned Lone Star national recognition and several prestigious awards, including the Center for Digital Government’s Best of Texas Award, EMC’s Journey to the Cloud Award and the Center for Digital Education’s Digital Community Colleges Survey award. Alander understands the importance of investing in his team: “We reorganized job titles and responsibilities around these new skills and cloud computing,” Alander says. “It’s more than technical training; it’s about understanding the organization’s goals and how to add value.”

Deployment of a new LMS in early 2013 will further leverage technology to support Lone Star’s large online student population.

Calsolaro Smulsky is a major proponent of student-faculty interaction via online learning environments. In response to rising enrollment and increased travel costs for students, she and colleague Diana Carey developed and conducted Excelsior’s two-day Capstone Retreat for graduate nursing students entirely online, using Adobe Connect. Through her dissertation research, “Measuring Student-Faculty Interaction for Nontraditional College Students: A Comparison of Data Collection Tools,” she discovered that online learners find interaction with faculty to be rich and of high quality, but also believe that more frequent interaction is needed. For her own students, Calsolaro Smulsky ensures a high-quality, successful learning experience by utilizing virtual meetings rooms with Adobe Connect Pro. She conducts weekly synchronous chats focusing on various curriculum-related topics. She also expands on discussions taking place in the asynchronous environment of the online discussion board. Students can talk to each other live and view each other via webcam. Calsolaro Smulsky provides one-on-one assistance to struggling students and uses the virtual office to review graded papers. In addition, she uses Adobe Connect to record short videos on various topics and post recordings in announcements and discussion boards. As Excelsior’s faculty program director, she encourages fellow faculty to take advantage of online learning tools. Many have found the virtual office to be a positive experience for both themselves and their students.

Asif Hussain is the behind-the-scenes leader of the capable IT team at Kingsborough, a top 10 community college nationwide. Despite tight budgetary constraints and the challenges of heading up the IT operations of a large physical campus, he has helped implement technological improvements at Kingsborough that benefit the entire faculty and student body, as well as administrators and staff. Under his watch, the use of SMART Boards on campus has increased exponentially in recent years and continues to grow annually. More computer labs have also been added. In addition to significantly augmenting the presence of computer terminals and SMART Boards into as many classrooms as possible, Hussain has spearheaded the expansion of Internet access outside the library and throughout the campus, helping to keep Kingsborough in the top 10 U.S. community colleges.
Christa Jones
District Coordinator of Academic Programs
Dallas County Community College District, Texas

Jones is leading efforts to redesign the Career Pathways program at Dallas County Community College District, which connects high school career and technical education (CTE) programs to programs at any of the district's seven colleges. Previously grant funded, the program now operates under a 75 percent staff reduction and significant budget cuts. To ease this transition, Jones leveraged cloud-based collaboration tools to increase information sharing, improve communication with stakeholders and create marketing materials at a fraction of the original cost. A big supporter of the district's mission and a proponent of technology use in the classroom, Jones uses Dropbox to create shared folders and files across multiple networks; Smartpen to capture notes and record audio into one file; and LiveBinder to create online folders of files, Web pages and forms. She also uses QR codes for marketing by creating codes for Web page links, business cards and short messages which can be scanned with smart devices. Rather than printing information, Jones is able to provide a business card with the QR code and offer access to the same information. Additionally, she uses the Socrative clicker app to create an interactive classroom, allowing students to use their phones as clickers to respond to questions and polls.

DeLaina Tonks
Director
Open High School of Utah (OHSU)

Under the leadership of Director DeLaina Tonks, OHSU has continuously reinvented what education means in the state. This public, online charter high school's mission is to use innovative technology, service learning, student-centered instruction and personal responsibility to empower students to succeed. Tonks' OHSU team is comprised of award-winning professionals whose top-notch teaching skills translate into measurable student academic gains, which in 2012 led the school to be ranked 31 out of the top 50 high schools in Utah. Each student's educational experience is customized through relevant, data-driven instruction. OHSU's standards-aligned curriculum is built by teachers and openly licensed which gives educators the ability to adapt the content as needed in real time. OHSU's success is achieved not only by hiring well but also by leveraging cutting-edge technology, which is just one way Open High School teachers equip students with the tools they need to succeed in a global marketplace as they put the focus where it should be — on the students.

Dr. Michael Martirano
Superintendent
St. Mary’s County Public Schools, Md.

Dr. Martirano has concentrated his efforts on reinventing the traditional classroom for the next generation, doing whatever it takes for the students of St. Mary's County Public Schools (SMCPS) to be college- and career-ready by graduation. He established a plan highlighting 15 priorities to improve student achievement, the centerpiece of which was the expansion of the use of technology and data to increase student learning. On a shoestring budget, SMCPS took a phased approach to providing teachers and administrators with the tools needed to ensure students progressed at the level of proficiency expected. First, the district implemented a data warehouse to provide the reporting and analysis needed to inform and drive instructional decisions. Simultaneously, a student information system was integrated to track and measure student proficiencies, providing detailed information for teachers and administrators to support students where they needed it most. Following that was a technological upgrade of schools and classrooms to lower the ratios of computers to students, add more tablets and provide online learning opportunities. Under Martirano's watch, SMCPS also established STEM academies targeting students in grades 4-12. Additionally, high school students have access to the Academy of Finance and Global and International Studies programs. Two other alternative pathways to high school success include the Tech Connect program and the Fairlead Academy, a dropout prevention program. Finally, the district’s Dr. James A. Forrest Career and Technology Center has added new programs to meet the diverse learning needs of students.
Keith Mispagel
Superintendent
Fort Leavenworth Unified School District #207, Kansas

As superintendent of Fort Leavenworth Unified School District #207, Mispagel supported and actively engaged with his staff to build a “Cyber-TEAMS” initiative, which provides professional development to teachers across the district to drive innovation and share student achievement through advanced technology tools. Mispagel also promoted the development of the program at the state and national level and was instrumental in the process of identifying and receiving grant funding. Mispagel believes the best strategy for success is to have professional development early and often. He has dedicated significant time and resources to ensure his staff are trained and comfortable in utilizing the technology implemented. The teachers in his district pilot, gather data, implement and develop a plan for rollout of the technology. Through the Cyber-TEAMS initiative, Mispagel has led the staff to create their own model of STEM (plus arts) curriculum, which has helped the teachers to inspire creativity, empower critical thinking and foster student collaboration. He notes that the future leaders of the country must possess technology skills, and comments that it must start at the earliest stages of learning. He believes that to continue teaching only using traditional methods does not engage the abilities or the potential academic advancement of the younger population in a digital age, and that school and learning should be a fun and engaging experience to set the stage for future success.

Daniel Stein
Director of Technology Initiatives and Assistant to the Vice President
Touro College School of Education, N.Y.

Stein has virtually redefined the nature and format of graduate education courses at Touro College by transforming them from traditional, text-driven studies about educational theory and practice into exciting, hands-on experiences in which the student directly prepares digital resources for his or her own classroom. Stein's courses turn his graduate education students into teachers who are comfortable with and sophisticated in the use of Web 2.0 technologies, ready to bring these skills into their K-12 classrooms. Students are required to prepare their assignments as pages of a personal/professional website, and learn how to incorporate user-friendly, free resources like Google Sites, JING and YouTube effectively in class. His assignments realign teacher/learner roles, and students learn education content and teaching skills through research and information gathering to inform their assignments. Their websites are professional products designed to teach others what they have learned; they also function as e-portfolios, with all assignments archived and easily accessible to fellow students, professors and colleagues. This makes it easier for students when looking for a job since principals can easily see their accomplishments and potential. Stein's innovative classes have become very popular at Touro, with hundreds of students moving through them and eventually taking positions in public schools throughout New York City and the state. Furthermore, Stein designs his course resources and approaches to be highly replicable by teacher education colleagues at Touro and beyond, and has shared them extensively through faculty development workshops and webinars.

“Anything short of wisely embracing emerging technologies and teaching our students to create a professional and ethical online presence inhibits our youth from reaching their full potential.”

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Daniel Stein
Director of Technology Initiatives and Assistant to the Vice President
Touro College School of Education, N.Y.
Dr. Cynthia Vavasseur

Assistant Professor, Instructional Technology Specialist
Nicholls State University, La.

Vavasseur has worked diligently to enhance student academic achievement, including starting Colonel Chat, which provides free virtual tutoring to K-8 students and meaningful field experiences for pre-service teachers. She also began “Storytime with the Colonels,” a broadcast of online theme-based stories and lessons for students in grades PreK-1. Vavasseur has also taken students to local and international technology conferences, as well as national service learning conferences. She has provided free professional development to teachers from local schools, and published a book, “Teach Me How To Tech: Videoconferencing in the Classroom with Visions Publications.” Vavasseur believes teachers should never teach a course the same way twice, go a day without watching a video or researching a new trend, or be afraid to make a mistake. She encourages teachers to always make it clear to students just how much they love what they do, believing this will do more to inspire than any individual lesson ever could.

Dr. Gardner Campbell

Director of Professional Development and Innovative Initiatives, Learning Technologies; Associate Professor of English
Virginia Polytechnic Institute and State University (Virginia Tech)

Dr. Campbell’s authority in digital education is based on his experience as a hands-on practitioner of innovation in the use of technologies to augment intellectual development, both for students and instructors. An award-winning teacher and Milton scholar, Campbell now focuses his attention on showing why the “largest increase in expressive capability in the history of the human race” (Clay Shirky) deserves to be the centerpiece of a new approach to teaching and learning. Supporting his vision with insights pulled from thinkers at the intersection of educational theory, technology development and intellectual history, Campbell’s work serves as a model for creative facilitators of learning worldwide. With nearly 3,000 Twitter followers and a popular blog, he is a highly sought-after speaker in the U.S. and beyond, with audiences numbering in the thousands annually. Campbell’s talks describe his experiences in exploring network effects as keys to self-discovery for his students, who uncover the secrets to nurturing their own curiosity and understanding how they learn. At Virginia Tech, Campbell works to help students understand and apply Joi Ito’s observation that “the Internet is not a technology, but a philosophy.” In 2012, he taught a seminar called “From Memex to YouTube: Learning, Cognition and the Internet,” and headed up other related courses. Those who have heard his message, at Virginia Tech and elsewhere, are adapting his concepts and practices in myriad contexts and disciplines.

“ The network will always be the ‘killer app,’ and nothing truly scales besides the user — and his or her imagination.”
Dr. Robbie Melton
Associate Vice Chancellor of eLearning and Mobilization
Tennessee Board of Regents

Melton has been a pioneer in exploring technology as a teaching, learning and delivery tool. Her passion for educational access, attainment and empowerment has earned her global acknowledgement. She continues to mentor diverse groups, encouraging them to embrace technology and gain the skills needed to thrive in the technological era. Among other initiatives, Melton created a “Telelearning, Teletraining, Telementoring Project” for teachers in South Carolina while serving as director for the Center of Excellence in Early Childhood Education, using the Internet and email to deliver professional development to teachers in rural areas. This project helped establish an early childhood center for homeless children, the “Open Arms Child Care Program,” in Rock Hill, S.C. In Tennessee, Melton’s dedication has been recognized by her volunteer efforts in using technology to recruit and mentor minorities seeking careers in education. She was one of the first professors at the University of Tennessee-Martin to use interactive video technology to teach students across the state in rural areas. This effort allowed numerous students from rural areas to finish their degrees. Melton has even extended her knowledge and skills in technology overseas to the faculty and staff at Mekelle University in Ethiopia, where she convened a forum on creating distance education programs and spent time providing hands-on training to faculty. Her current efforts (using vacation time and personal resources) have focused on working with Historically Black Colleges and Universities (HBCUs) to provide professional development and training in mobilization technology, e-learning/online program and course development, and quality standards.

Dr. James Craig
Professor and Educational Consultant
University of Maryland School of Dentistry/Office of Information Technology

Dr. Craig has been in the field of instructional technology for over 40 years, working to integrate technology into the curriculum by assisting faculty in the use of technology-based instruction, including Blackboard, Mediasite by Sonic Foundry for lecture capture and Questionmark. In 2004, Maryland’s School of Dentistry (UMSOD) was looking to embrace state-of-the-art learning technology, with lecture capture at its core. Dental students needed to access course content 24/7, and a newly launched distance education program in dental hygiene provided online lectures for remote learners. After an extensive evaluation, Dr. Craig and his team selected Mediasite by Sonic Foundry for the ambitious endeavor. Today, every school lecture and lab session is webcast. Thanks to Dr. Craig’s work, UMSOD is able to stream clinical demonstrations of dental procedures directly to the locations of remote dental students. Students can also stop and go back to review any portion of a lecture. Surveys indicate that Dr. Craig’s work at UMSOD has been an incredible success. According to survey results, 97 percent of students feel Mediasite webcasts made it easier to learn; 98 percent indicate they watched most or all of their lectures online; 50 percent agree or strongly agree that lecture capture attracted them to UMSOD in the first place; and 74 percent would recommend UMSOD to potential students because of the Mediasite webcasts.

Jeannine Burgess
Instructional Technology Coordinator and Professor of Computer Applications
Palm Beach State College, Fla.

Burgess is a visionary in educational technology, using animation and digital media in online courses to engage students. With the use of technology in her online courses, as well as training staff and faculty in educational technology and multi-media, student learning is enriched and students are more fully engaged in instructional material. Burgess’ lessons are as unique as they are rewarding. To teach her students about budgeting, she first requests that they view a video clip of a famous animal, like the dog Eddie on the former hit T.V. show Frasier. Once they become familiar with the animal, students form groups and are asked to create a budget using Google Docs, exploring various budgeting scenarios in response to questions like “What if I owned Eddie?” Together, the group members build a budget, calculating expenses and income. The process facilitates collaborative group learning and develops critical-thinking and problem-solving skills. Burgess finds that students learn best through experience. She carefully chooses experiences that support critical thinking and synthesis by providing an interactive activity, a community and feeling of belonging, and areas for reflection. Additionally, Burgess helps fellow Palm Beach State College staff and faculty increase student success by implementing recommended technologies.
Hardin is considered a visionary in the advancement of technology in education. In 2008, when most schools weren’t even thinking about mobile learning, Rowan-Salisbury School System was already implementing a 1:1 mobile device learning project. By April 2011, the district already had 5,000 iOS devices in the classroom and to date has added more than 10,000 OS X devices to its inventory. Over 1,100 classrooms in the district have Promethean Boards, every school in the district has at least one mobile laptop cart and several computer labs, and 11 school buses have wireless Internet to promote a mobile learning environment. Hardin’s 21st-century model incorporates technology that most students use at home and in their social lives and brings it into the classroom. He stresses the importance of transforming classrooms into learning environments where students can demonstrate their creativity, ability to innovate and enthusiasm for learning. His work with the superintendent and school board to create a vision for infusing technology across the district was an essential component to ensuring the transformation of classroom teaching and learning.

Greg Wilborn
Personalized Learning Coordinator
Colorado Springs School District 11

Wilborn is leading an evolution to personalize learning in a district of 29,000 students and 52 schools. He is accomplishing this through a well-thought-out vision and strategic planning process that includes a district strategic plan, individual school plans, a lead teacher program, demonstration classrooms and online professional development. He initiated, designed and is implementing this personalized learning project on a limited budget, and his enthusiasm, persistence and salesmanship are creating the perfect storm for evolution in a large urban district. Under Wilborn’s leadership, the district has created a Personalized Learning Lead Educator program, and has worked within this innovative group of teachers and library technical educators to transform learning.

The program identifies a classroom teacher-leader of technology innovation in each school, and these leaders then collaborate across the district and disseminate professional development in their own schools. Wilborn also helped create a school self-review for technology adoption and readiness. Every school now has a plan to move towards full technology integration and personalized learning.

Vinayak Tanksale
Instructor, Computer Science; Chief Software Architect, Applied Research Institute
Ball State University, Ind.

With more than 15 grants over the past eight years, Tanksale has skillfully crossed disciplinary boundaries, providing his expertise on multi-disciplinary teams involved in interactive television design, mobile applications, educational games, smart home technology and computer software research. Tanksale led the establishment of one of the first end-to-end interactive television media labs at a U.S. university through a partnership with industry association CableDev. In collaboration with colleague Brandon Waite and a team of students, he mobilized the unique assets of the interactive media lab to lead development of “Interactive C-SPAN,” a television platform that gives audiences the ability to access supplemental information while watching C-SPAN cablecasts. Largely through Tanksale’s expertise, Ball State has expanded its technological leadership in the area of interactive television and implemented new immersive learning programs that give undergraduate students opportunities to work on real technology products. As an instructor, Tanksale believes in giving students real-world experiences before they graduate, and promotes heavy student participation in class. To date, his students have found positions with standout companies like Microsoft, General Electric, Pixar, Angel Learning (now Blackboard), TiVo and Sesame Street Workshop.
Besides being assistant head of school for New Roads School, Wise also teaches high school physics and serves as the director of New Roads School’s research arm, the Center for Effective Learning (C4EL). In these roles, he has significantly improved how the school uses technology to improve education. For instance, he has established partnerships with leading research institutions and corporations. Wise also leads ongoing teacher training efforts, and has created a multi-tiered professional development program for the K-12 faculty.

Wise is a pioneer in using technology to accomplish educational objectives, and has been the driving force behind the development of the “Learning Tool,” an interactive, Web-based program that allows parents, teachers and students to work collaboratively to monitor progress and enhance student learning. It has shifted the way students, teachers and parents think about and access “learning” by managing assignments, scheduling, admissions, online documents, etc. In the past year, Wise worked with a team at GameDesk to create and launch a new school called “The Play Maker School.” The Play Maker School will utilize the Learning Tool and will use other innovative learning modules to create a playful learning experience that is student directed and has measurable learning outcomes. Through this model, students are seen as producers of information instead of consumers, and will develop communication, collaboration and problem-solving skills.

Joe Wise
Assistant Head of School
New Roads School, Calif.

As a team, Dr. Esteves, Dr. McDaniel and Dr. Anderson developed Troy University’s eQuad, the next-generation innovation in e-advising. While traditional brick-and-mortar campuses tend to have a central physical location—a quad, where students gather to network, build friendships and collaborate on projects—the eQuad, through the use of the Blackboard course management system, provides an online alternative. It gives online students a central location for finding information, sharing knowledge and building a campus community with advisers, faculty and peers. The eQuad features numerous advantages over previous e-advising models, including rich communication tools and enhanced access to online advisees—equipping an entire department’s faculty with a powerful tool to promote advising excellence and providing a one-stop shop for students to get all the data they need about Troy University and the Masters of Public Administration (MPA) program. This includes information on registration, course planning, internship opportunities and webinars hosted by faculty. The Anderson-Esteves-McDaniel team believe that educators must be willing to step in front of a camera (or webcam) and get out from behind the computer “curtain.” Many faculty are uncomfortable with using webcam technology, but it can be an integral way of improving the communication channel between instructor and student. A dynamic visual of an instructor can make the online learning experience more engaging and retain the face-to-face exchange of nonverbal expression that is the foundation of social interaction.

Dr. Terry Anderson,
Dr. Tammy Esteves,
Dr. Dayna McDaniel
Associate Professor; Assistant Professor; Instructor
Troy University, Ala.

“It is a fast, dynamic world we have entered in online course delivery. Online educators must realize that our students expect us to be using the latest technology/software and that our competitors are already using the next upgrade.”
Adina Popa

Technology Resource Teacher and International Ambassador
Loudoun County Public Schools, Va.

Popa is viewed as a leader in 21st-century collaborations and gesture-based learning. Her opinion as a change agent is constantly sought by publishers and researchers, and her efforts are recognized around the world. Her work on the “Power of Everyone” initiative receives worldwide attention, and her efforts as an international ambassador of Loudoun County Public Schools has led to the receipt of several professional awards and national recognition.

Popa facilitated professional collaboration by founding and helping to organize TEDxAshburn, a one-day event where educators and industry leaders meet and share visionary ideas. Popa is also a core advisor for the Global Education Conference, an online event that provides staff development on collaborative activities. Popa’s advice for other education technology leaders is to think big and accept failure as part of professional growth. She notes that with an established vision, a willingness to push the limits and a commitment to students’ success, one can experience great rewards. The students Popa reaches through her projects are learning in global classrooms today and they are better prepared for their futures in 21st-century work environments.

Charlie Schweik

Associate Professor, Department of Environmental Conservation and the Center for Public Policy and Administration; Associate Director, National Center for Digital Government
University of Massachusetts-Amherst

As one of the first faculty members to have students use wikis and other digital technologies as an integral part of class assignments, Schweik has utilized a variety of new technologies and media to promote engaged student learning. In 2004, Schweik founded the university’s open source laboratory, where students in the social sciences were exposed to open source software (OSS). His recent monograph, “Internet Success: A Study of Open-Source Software Commons,” co-authored with Robert English, uses these experiences to provide empirical evidence to describe the factors needed for success in using OSS and for Internet-facilitated collaboration projects. Schweik is a firm believer in the use of open technologies and open source educational materials to enhance the learning experience while keeping class affordable. He has been a leader in the initial stage of the university’s Open Education Initiative, sponsored by the provost and the University Libraries. After a pilot in two classes where a combination of his own materials, openly available education resources and library-funded materials were used, library staff estimate that students saved over $5,500 in textbook costs. Schweik is also the chair of the Open Source Geospatial Foundation Education and Curriculum Committee where he works to mobilize a community of international educators toward the production and sharing of open-access educational material related to GIS.
Valerga is CIO for one of the largest urban school districts in the U.S., a district which will consolidate with Shelby County Schools in August 2013 to form a unified school district that will have over 150,000 students. Valerga took the initiative to ensure that his department, Information Technology, was the first department to implement collaborative projects with Shelby County Schools by establishing a combined Information Technology Governance Counsel to implement an IT Governance process in both districts. This partnership positions both districts to make more strategic decisions related to IT investments, streamline decision-making and create greater accountability around IT. Additionally, both districts had an urgent need to create an Education Intelligence Solution to support the collaboration and informed decision-making necessary to ensure that every student leaves the districts prepared to succeed in college, the job market and the global economy. Valerga’s department will be responsible for managing the creation of this new data warehouse.

Valerga encourages educators to go back to the basics and ensure that a robust infrastructure is in place, but also suggests allowing for freedom along the edges for the evolving BYOD environment. He states that strong IT governance is essential to make the right investment decisions for both districts and students. Governance enables good stewardship of taxpayer dollars while still allowing room for innovation. But Valerga’s biggest piece of advice for other education leaders: train, train, train your staff and give them as many professional growth opportunities as you possibly can.

Gravina’s dedication to providing state-of-the-art technology for all students has resulted in keeping Poway Unified School District (Poway USD) on the cutting edge of technology. Gravina has created an information technology department focused on providing innovative, dynamic and reliable technologies through responsive customer service in support of the learning environment. As a high school administrator and instructional leader, Gravina supports his staff to integrate the use of technology into instructional strategies throughout the curriculum. Poway USD’s IT infrastructure and IT services provide platforms upon which technology-based instructional strategies can be built. His most recent achievement is the implementation of cloud technology. Under his leadership, Poway USD built a robust public/private cloud environment, which they call MyPLAN (My Poway Learning Access Network). Through a single sign-on portal, parents, students and staff have access to multiple applications and information in a secure and controlled environment. The school community now has access to real-time data, such as attendance and grades as well as reports about student progress on district and state tests. This technology will become the central environment which Poway USD will use to deploy future applications, provide digital content and build home-to-school collaboration. Gravina advises other technology leaders to believe in themselves and their teams, and to practice distributive leadership. Due to the sometimes overwhelming nature of technology, Gravina believes that micromanagement will almost always lead to failure in the IT world, while collaboration and teamwork can lead to success.

Dr. Philip D. Lanoue is working in collaboration with a design team from his district, the Georgia Department of Education and the University of Georgia to make Barrow Elementary the first model technology school in Clarke County and the state’s model technology district. With Barrow as the model, Lanoue will incorporate best practices throughout the district. Under his leadership, the district is planning for a 1:1 initiative. This year, the district began with a 2:1 initiative where students in kindergarten through 12th grade use netbooks to engage in digital learning in innovative ways. Lanoue has also piloted other technology-driven initiatives and programs district-wide: A customized LMS, which provides students access to accounts that connect anytime with teachers and other students on a digital platform; a statewide longitudinal data system (SLDS), which allows teachers to assess student performance for state tests and attendance information; the Georgia Virtual High School Curriculum, which allows all teachers in the district to use statewide digital curriculum in a blended learning model; and the National Education Technology Standards (NETS), which provides teachers with a framework for teaching students critical skills for the digital age.
The Digital Community Colleges Survey, conducted by the Center for Digital Education and Converge, documents how community colleges have progressed in their use of information technology to improve service delivery and quality of education in post-secondary institutions. The purpose of the survey is to recognize and showcase community colleges’ use of technology to provide a high level of service to their faculty, students and communities. All U.S. community colleges are invited to participate in the survey.

In the seventh annual 2011 Digital Community Colleges Survey, the Center for Digital Education selected community colleges that span the nation as outstanding examples of technology delivery in higher education.

### 2011 Digital Community Colleges Survey Winners

#### LARGE COLLEGES CATEGORY – 10,000 STUDENTS OR MORE:

1. Kingsborough Community College
2. Lone Star College
3. Montgomery County Community College
4. Northern Virginia Community College
5. Catawba Valley Community College
6. Scottsdale Community College
7. Howard Community College
8. Johnson County Community College
9. Tidewater Community College
10. Catawba Valley Community College

#### MID-SIZED COLLEGES CATEGORY – BETWEEN 5,000 AND 10,000 STUDENTS:

1. Virginia Western Community College
2. Atlanta Technical College
3. Hostos Community College
4. Germanna Community College
5. Laramie County Community College
6. Lord Fairfax Community College
7. Walters State Community College
8. NorthWest Arkansas Community College
9. Lake Land College
10. Aims Community College

#### SMALL COLLEGES CATEGORY – LESS THAN 5,000 STUDENTS:

1. Tompkins Cortland Community College
2. Central Wyoming College
3. Mid-Plains Community College
4. Carl Sandburg College
5. Halifax Community College
6. Lake Sumter Community College
7. Kirtland Community College
8. Rappahannock Community College
9. Kauai Community College
10. Southwest Virginia Community College
11. Mesabi Range Community & Technical College
12. Panola College
13. Piedmont Virginia Community College
The Digital School Districts Survey, conducted by the Center for Digital Education, the National School Boards Association and Converge, examines how school boards and their districts are applying information technology to improve service delivery and quality of education in public schools. The purpose of the survey is to showcase exemplary school boards’ and districts’ use of technology to communicate with students, parents and the community, and to improve district operations.

All U.S. public school districts were eligible to participate in the eighth annual 2011-2012 Digital School Districts Survey, and were placed in three classifications based on size of enrollment. The Top 10 rankings reflect those school boards/districts with the fullest implementation of technology benchmarks in the evolution of digital education, as represented in the survey questions.

### LARGE STUDENT POPULATION DISTRICT CATEGORY:

1st Barrow County School System  
2nd Fayette County Schools  
2nd Township High School District 214  
3rd Roanoke County Public Schools  
3rd Savannah-Chatham County Public School System  
4th Prince William County Public Schools  
5th Klein Independent School District  
5th Mobile County Public School System  
6th Cherokee County School District  
6th Colorado Springs School District Eleven  
7th Mansfield Independent School District  
7th Northwest Independent School District  
8th Frederick County Public Schools  
8th Gwinnett County Public Schools  
8th Richmond County School System  
9th Rowan-Salisbury School System  
10th Blue Valley School District #229  

### MID-SIZED STUDENT POPULATION DISTRICT CATEGORY:

1st Henry County Public Schools  
2nd Fayetteville Public Schools  
3rd Marietta City Schools  
4th Decatur City Schools  
4th Oconomowoc Area School District  
5th Vineland School District  
6th City Schools of Decatur  
7th Madison County Schools  
8th Bulloch County Schools  
9th Bergenfield Board of Education  
10th Andover Public Schools  

### SMALL STUDENT POPULATION DISTRICT CATEGORY:

1st Springville-Griffith Institute Central Schools  
2nd Gooding Joint School District #231  
3rd Harrisburg School District  
4th Maine Regional School Unit 21  
5th Carroll County School District  
6th Geneseo Community Unit School District 228  
7th Orange City Schools  
8th Chickamauga City Schools  
8th Hanson School District  
9th Jefferson City Schools  
9th Long County School District  
10th Fort Thomas Independent Schools
2011/2012 Center for Digital Education Event Recap

The Center for Digital Education holds several events throughout the year to celebrate the winners from our nationally recognized surveys, bring awareness about the importance of technology in education, and build relationships between the public and private sectors to spark innovation. Here we feature some of the highlights from our 2011-2012 events.
Remember to drive customer-oriented solutions.
Jerome Oberlton,
Chief Information Officer,
Baltimore City Public Schools

Thank you all for fostering a culture of innovation in the service of teaching and learning!
James Frazee, Director of Instructional Technology Services,
San Diego State University

This is the year for education and technology to converge into true digital learning!
Karon Tarver, Executive Director of Educational Technology,
Fort Worth Independent School District

Digital education is like a bullet train - it will be here before you know it! Prepare now.
Greg Lindner, Chief Information Officer,
Elk Grove Unified School District

Never underestimate the value of solid professional development!
Timothy Holt,
Director of Instructional Technology,
El Paso Independent School District

Our students are counting on innovators to change education.
Kurt Madden,
Chief Technology Officer,
Fresno Unified School District

Don’t wait for opportunity, create it!
Jorge Mata, Chief Information Officer,
Los Angeles Community College District

Leaders must think differently about how they need to make the shift from traditional desktop computing to mobile devices.
Keith A. Bockwoldt,
Director of Technology Services, Township High School District 214

Taking students to new places!
Kathy Politis, Director of Instructional Technology, Fulton County Schools

There must be an urgency to amend legacy practice and priorities in public education if our students are to successfully compete in a global knowledge economy.
Carl D. Fahle,
Senior Director of Technology,
San Juan Unified School District
IT High Program and the Technology Distribution Center combination is a smash hit!

W. Wesley Watts Jr.,
Chief Information Officer,
Prince George’s County Public Schools

Keep the focus on the learning!

Ann McMullan, Executive Director,
Educational Technology, Klein Independent School District

Innovation is the fuel of our economy - Congratulations innovators!

Lee M. Colaw, Chief Information Officer,
Amarillo College

Anytime, anywhere, any device ... the future of learning.

Diana M. McGhee, Director of Technology and Information, Fort Thomas Independent School District

Congratulations to all of the innovators who use technology to support student achievement and prepare them for today’s global society!

Jhone M. Ebert, Chief Technology Officer,
Clark County School District

Our infant steps in learning analytics are leading to a world of opportunities to understand learner behaviors and improve student success.

David Shulman, Ph.D., AVP, Online & Instructional Technology, Broward College

Keep confidence and campus collaboration at the forefront in technology improvement and innovation!

Paige Francis,
Associate Vice President, Northwest Arkansas Community College

Congratulations and continue innovative leadership for kids!

Karla Burkholder, Director of Instructional Technology, Northwest Independent School District

If we teach today’s students as we did yesterday’s, we are robbing them of tomorrow.

Bill Johnsen, Director of Instructional Technology, Virginia Beach City Public Schools

Mobility rules!

Leslie Riester
Associate Vice President of Technology Solutions,
Portland Community College
Industry News

MOUNT PLEASANT INDEPENDENT SCHOOL DISTRICT in Texas — which serves 5,500 students — is now able to stay ahead of security threats to its physical, virtual and cloud environments with the TREND MICRO DEEP SECURITY monitoring and auditing capabilities. Camden County Schools in Georgia minimized cost and complexity for its small IT network staff of two — that is responsible for approximately 4,000 PCs — with TREND MICRO’S ENTERPRISE SECURITY SOLUTION, including integrated endpoint, mail server and gateway solutions. ROCKLIN UNIFIED SCHOOL DISTRICT in California was able to implement a secure virtual desktop infrastructure (VDI) environment with Trend Micro’s Deep Security solution, improving the districts RETURN ON INVESTMENT and providing students and staff with INDUSTRY-LEADING TECHNOLOGY.

THE UNIVERSITY OF OKLAHOMA purchased six HD zoom lenses from CANON U.S.A. to help raise the quality of its in-house video coverage of the university’s successful athletics programs. With the new broadcast-quality equipment, university sports fans will be able to view network TV standard coverage of sports events. By installing CANON REALIS WUX4000 PROJECTORS, Soka University in California was able to provide cost-effective, next-generation display technologies to its theater, performing arts center and a classroom. The university also uses XF305 PROFESSIONAL HD CAMCORDERs to capture state-of-the-art video of events at its performing arts center and concert halls.

By implementing 400 SAMSUNG SYNCHMST CLOUD DISPLAYS, ALEDO INDEPENDENT SCHOOL DISTRICT in Texas was able to easily outfit a new 9th-grade building with computing resources while also reducing IT support, providing MORE UP TIME for students and using 60 percent less electricity compared to traditional PCs with monitors. MEMPHIS CITY SCHOOLS in Tennessee is teaming up with Samsung for a pilot that outfits a 6th-grade math class with SAMSUNG’S SMART SCHOOL SOLUTION package, including 35 GALAXY Note 10.1 units, a 65-INCH INTERACTIVE WHITEBOARD AND A WIRELESS PRINTER. The Smart School Solution enables teachers to deliver interactive lessons and real-time group activities, and allows students to ACCESS LEARNING RESOURCES THROUGH THEIR TABLETS. The district hopes to ENGAGE STUDENTS, ELEVATE LEARNING and foster an interactive learning environment with the pilot.
Thank you for inspiring the next generation of innovators.

Congratulations to the 2012 Education Innovators of the Year. Your dedication to teaching through technology gives all of us a brighter future.

To learn more about innovative education solutions, visit www.samsung.com/education.

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Budget cuts continue to loom overhead for many K-12 and higher education schools, and that means IT departments are shouldering their share, as well — sometimes even more. To provide the increasingly popular digital offerings — such as online learning and virtual classrooms — that students are clamoring for, school leaders must often step up their game to stretch existing resources further.

A three-point strategy can make your IT department seem bigger
By focusing on a few security-related areas, school IT departments can do significantly more with less and potentially reduce costs.

Streamline Operations
Adopt solutions that simplify IT network security management and related administration, and centralize certain related maintenance tasks. For example, hundreds of IT systems vulnerabilities are discovered each month, and schools must patch them to protect against IT attacks. Unfortunately, implementing these security updates remains time consuming and often requires systems downtime during business hours. Adopting a strategy that protects servers and end points using “virtual patching” until those formal patches can be deployed during less costly routine maintenance times frees IT staff for other important tasks. Likewise, look for solutions that automate security events to simplify IT administration.

Block Malware
Today’s students still fall prey to online scams, phishing attacks and other network intrusions. A successful K-12 and higher education IT strategy provides open, safe and secure Internet access while safeguarding networks against external and internal attacks and malware. Adopting a stalwart end-to-end defense can also reduce the time IT staff spends managing related security and remediating malware.

Simplify Compliance
Ensuring compliance with government mandates such as CIPA, FERPA and HIPAA — and institutional policies — requires much time and attention. Likewise, to receive certain funding types, including E-Rate for library Internet access, schools must meet certain rules and regulations. By tapping solutions that automatically block inappropriate content, use HTTPS filtering, protect messaging and prevent data loss, IT departments can achieve those compliance goals and reduce time spent enforcing policies.

Trend Micro provides top-ranked solutions that help schools achieve all of the above — and more. Hailed as a global market security leader, the company proudly partners with K-12 and higher education schools to deftly guide them as they seek the best in digital education.

Begin your investment with quality equipment from a trusted brand. Special rates and services are available for education purchases.

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JAMF SOFTWARE would like to congratulate the EDUCATION INNOVATORS

With a special congratulations to Phil Hardin, executive director for technology at Rowan-Salisbury School System in North Carolina, for his continued dedication to innovation in education.

JAMF Software supports education institutions’ one-to-one programs and eBook and app distributions with its mobile device management solution, the Casper Suite. The Casper Suite enables large one-to-one Apple device rollouts by helping IT departments efficiently manage deployment so schools can stay focused on improving student engagement, learning and test scores. As more and more schools implement apps and eBooks to provide digital learning to students, they can rely on the Casper Suite to help them leverage these new, exciting technologies. The Casper Suite enables school IT departments to remain supportive, flexible and reliable as they increasingly turn to Apple devices for their 21st Century learning initiatives. It is the only complete management software developed exclusively for the Apple platform, allowing schools to continue growing their population of Apple devices without expanding their IT departments.

For more information about how JAMF Software’s Casper Suite can help your school support one-to-one programs and eBook deployments, visit www.jamfsoftware.com/everything-education.
Join us where it all began! The League is proud to announce that Innovations 2013 is returning to the site of its first conference in 1998 – Dallas, Texas. Ultra modern and sophisticated, Dallas is the number 1 visitor and leisure destination in Texas, with a rich arts district, world class shopping and dining, and moderate year-round weather.

Innovations 2013 is the League’s premier event for professionals dedicated to improving teaching and learning. At this event, the League will unveil the John & Suanne Roueche Excellence Awards dedicated to recognizing outstanding community college faculty and staff, and the John Roueche and Terry O’Banion International Leadership Award promoting the community college experience. We hope to see you at this 15th anniversary event, where you will network and share with colleagues, learn from experts, and demonstrate your commitment to innovation in the community college.

**INNOVATIONS**

**MARCH 10-13 2013**

**Conference in Dallas**

**Hilton Anatole**

Hosted by Dallas County Community College District

For exhibition opportunities, please contact Chris Hennessey at hennessey@league.org.

Early registration deadline is February 7, 2013

www.league.org/i2013/reg
Sponsors:

Acknowledgements:

**JOHN HALPIN** is Vice President of Education Strategic Programs for the Center for Digital Education. As a veteran K-12 teacher, college professor and IT consultant, Halpin has been active in promoting the use of technology in education for over 25 years. He has led sales and marketing efforts for some of the largest technology companies and has written for various media outlets. In addition, Halpin is a frequent speaker on public sector technology issues for national professional associations, various state leadership councils and technology companies.

**MICHAEL MUTH** is the Education Research Analyst for the Center for Digital Education. He works with Center members providing market intelligence and analysis in the education marketplace.

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**THE CENTER FOR DIGITAL EDUCATION** is a national research and advisory institute specializing in K-12 and higher education technology trends, policy and funding. Along with its research services, CDE issues white papers and conducts the annual Digital School Districts and Digital Community Colleges surveys and award programs as well as hosting events across the K-12 and higher education arena. CDE also supports the Converge media platform comprised of the quarterly themed Converge Special Reports, Converge Online, and custom publishing services.