



EMPOWERING THE 21ST CENTURY SUPERINTENDENT

5 themes & action steps
for technology leadership

Consortium for School Networking

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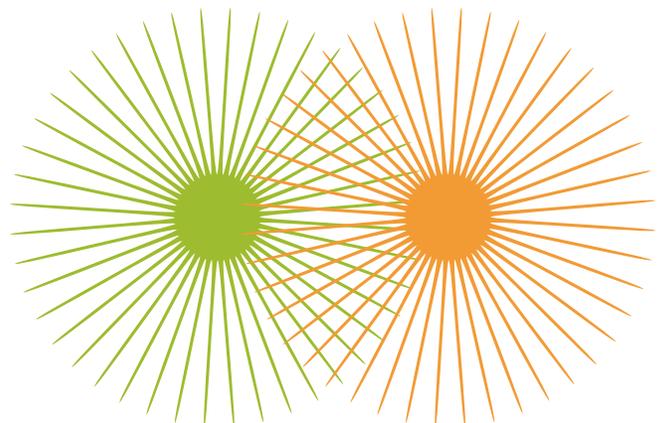
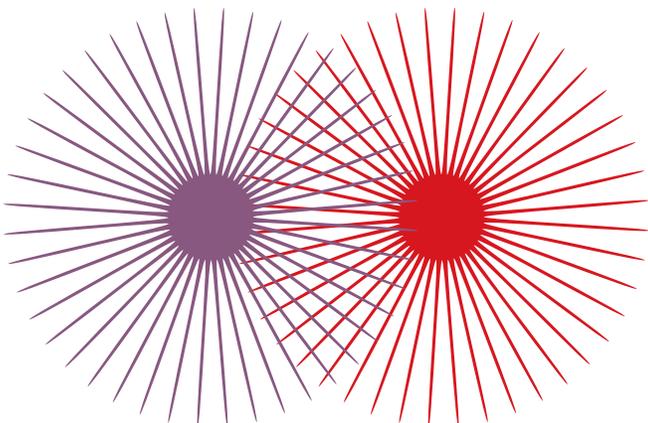
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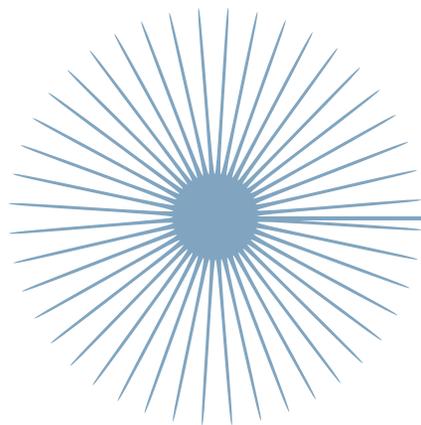
About the Consortium for School Networking

The Consortium for School Networking (CoSN) is the country's premier voice for K–12 education leaders who use technology strategically to improve teaching and learning. CoSN provides products and services to support leadership development, advocacy, coalition building and awareness of emerging technology. Our membership includes a unique blend of education and technology leaders, policy makers and influencers from the public and private sectors.

www.cosn.org

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EMPOWERING THE 21ST CENTURY SUPERINTENDENT

“We have lots of
good school districts
in our country.

We have just a few
great school districts.

Getting from good to great
is just a quantum leap.

Technology plays such a
significant role in that.”

—Dr. John Morton
Superintendent
Newton (KS) Public Schools



Of all the challenges you face as a superintendent, technology leadership may be the one that leaves you feeling the most unprepared, uncertain and vulnerable.

You’re not alone. Superintendents in districts of every size and geographic region expressed similar sentiments about technology in focus groups and one-on-one interviews with the Consortium for School Networking (CoSN),

the nation’s premier voice for technology leadership in K–12 education:

- **Superintendents recognize that technology is critically and increasingly important in education.** They embrace their leadership role as technology advocates who create the vision and set the tone for technology use in their districts. At the same time, many acknowledge that their own technology knowledge and competencies aren’t where they need to be.
- **Superintendents take pride in the promising technology practices in their districts**—but they also admit that effective, system-wide use of technology to support student achievement remains an elusive goal for a variety of reasons, ranging from inadequate infrastructure and funding to uneven community support and educator capacity.
- **Superintendents are keenly aware that disparate deployments of new technologies could divide schools between the haves and have-nots**—and they worry that their own districts and students could fall behind on their watch.

Understanding the “Third Wave” Challenge

Technology leadership presents special challenges for superintendents for good reasons. Chief among them is that the focus of educational technology is changing rapidly, from putting in place a solid infrastructure to using technology systematically to change educational practices and significantly improve results. Districts are at very different places when it comes to realizing the full, transformative value of technology.

Futurists define the “third wave” as the next stage of revolutionary change in technology and society. By this definition, **the first wave of educational technology is the infrastructure**—wiring, outlets and networks; tools—computing devices and other hardware and software; and access—bandwidth. The infrastructure is an essential condition, but only a

“The superintendent must have the vision, and then it’s the superintendent’s job to put the support and resources, both financial and personnel, in place to reach that vision.”

—Kevin Case
Superintendent
Inman Unified School District, KS

starting point, for effective use of technology in schools.

The second wave of educational technology is the supportive and enabling applications—student information systems, distance learning and online standardized tests, for example. These kinds of applications are vital for making education more efficient and effective, and improving access to content, but they do not fundamentally change traditional educational paradigms.

The third wave of educational technology is transformative applications—fully infusing and integrating technology into every aspect of the system, including academic standards and curriculum, pedagogy, professional development, leadership, administration, communications and assessments. Drilling down into the experiences and interactions between teachers and students is the most difficult and intensive use of technology—and it is also the direction in which schools must move to prepare U.S. students to be internationally competitive.

Education lags behind every other major industry in using technology effectively as a tool for productivity, learning, communications and creativity. With districts under pressure to improve student achievement and modernize educational practices, superintendents must be at the vanguard of technology leadership to reach this new frontier.

About This Initiative

CoSN has long recognized that superintendents can make or break technology initiatives. For example, in a 2004 nationwide survey of 455 technology decision makers, CoSN found that visionary technology leadership—and the community support fostered by district leaders—made the difference in districts that were able to bolster their technology plans, budgets and implementation. The report of these findings, *Digital Leadership Divide*, can be found at http://www.cosn.org/resources/grunwald/digital_leadership_divide.pdf.

Now, with this report, CoSN is launching Empowering the 21st Century Superintendent, an initiative dedicated to helping superintendents, aspiring superintendents and district leadership teams build their knowledge, skills and confidence as effective technology leaders.

This report highlights five themes and action steps for technology leadership, which emerged from CoSN’s extensive conversations with superintendents and from topics that are gaining national—and international—interest among educators, parents, policymakers and the business community:

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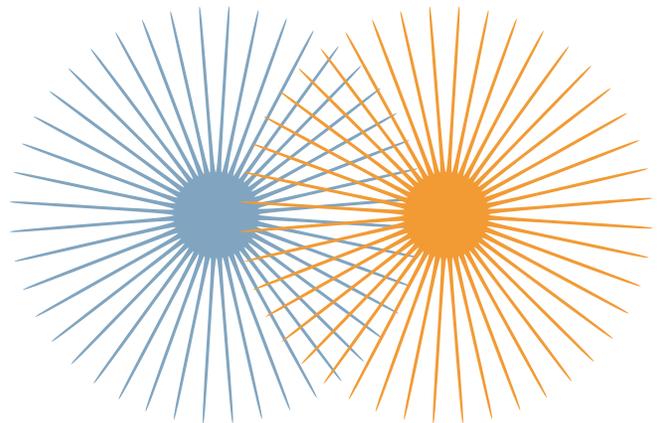
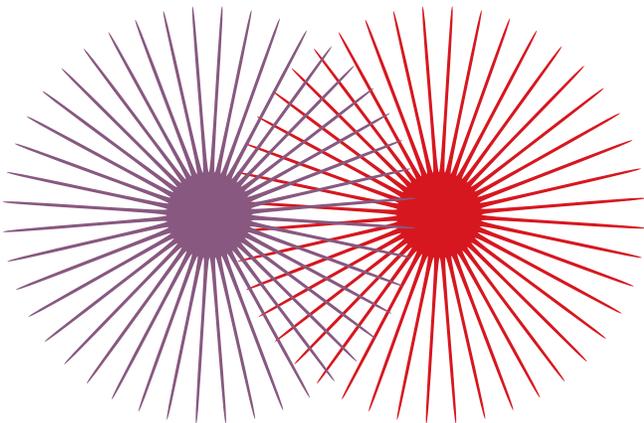
Themes for Technology Leadership

1. Strengthen District Leadership and Communications
2. Raise the Bar with 21st Century Skills
3. Transform Pedagogy with Compelling Learning Environments
4. Support Professional Development and Communities of Practice
5. Create Balanced Assessments

On our Web site dedicated to this initiative www.superintendentempower.org, you will find additional opportunities to learn and collaborate with your peers.



STRENGTHEN
DISTRICT LEADERSHIP
AND COMMUNICATIONS



To be an effective technology leader, you should model innovative uses of technology and empower educators, parents, students and the community with technology solutions.



A quick question: Beyond your cell phone, is there a cutting-edge technology that you use routinely to accomplish your work?

For many superintendents, the answer is no. But technology can help you stay on top of your game, both as a tool for personal productivity and as a means for professional learning, growth, collaboration and communications. You will be a much more informed, passionate and believable advocate of technology in your district—and, when appropriate, with state or federal legislators who also determine technology funding—if you actually use it yourself.

You should consider yourself the model-in-chief in your district, taking every opportunity to showcase innovative technology in your work with your staff and community. “Walking the walk” with multimedia presentations to the school board or podcasts to the faculty or a blog of your own, for example, will illustrate your commitment to changing the culture of education in your district. And your own willingness to put yourself on the line and take risks will alleviate some of the resistance and fear that are typical with new technology.

Leading a school district and dealing with day-to-day responsibilities is demanding work that can leave superintendents isolated. Technology can help you stay in touch with the wider world and gain perspectives that can make you a more effective leader. For example, online conferences and forums such as blogs, chat programs and instant messaging enable you to network with your peers; benchmark what other school systems in your state, the nation and abroad are doing; and be among the first to learn about research, best practices and technology innovations. Similarly, technology can be used to support new or struggling principals, teachers or other educators with coaching or mentoring.

Integrating technology into district leadership, management and operations will empower people to do their jobs more efficiently and effectively. For example, information, content and resource management systems can help you, your leadership team and school staff collect, report, understand, access, use, manage and secure data. Technology solutions are indispensable for data-driven decision making at the district, school and classroom levels.

A chief technology officer or chief information officer who reports to the superintendent as a senior cabinet official can help districts keep technology front and center and manage these critical components of a district technology strategy.

Superintendents know that community involvement and support are critical as well. Technology can help districts reach out to key constituencies, including teachers, parents and students. Web sites, broadcast e-mails and recorded phone messages, for example, can deliver timely information and alerts.

“We need to read enough to know what’s right and wrong. It is very important to know a good deal about technology ... what’s the latest thinking about how to access information, best model for putting technology into the classroom, what’s available ... what role new technologies such as iPods and BlackBerries play ... what smaller devices are on their way. The superintendent needs to have enough knowledge to ask the right questions and to pick a good CTO.”

—Dr. Annette Griffin
Superintendent
Carrollton-Farmers Branch
Independent School District
Carrollton, TX

More sophisticated technology can expand the one-way communications into a sustained dialogue—and also transform home–school relationships. Web-based learning management networks and software applications, for example, can give parents and students one-stop access to classroom activities, homework assignments, traditional and multimedia content, grades and other student records, extracurricular activities and more. Parents can be much more meaningfully involved in monitoring their children’s progress—and intervening with teachers, if necessary. Students can have anytime, anywhere access

to schoolwork and collaborative tools—and to online “drop boxes” for turning in assignments.

Superintendents voice strong satisfaction with the power of technologies like these to support parent involvement and community engagement.

Action Steps for Superintendents and District Leadership Teams

- Reflect on your own use of technology and explore new ways to use technology to improve your knowledge, skills, personal productivity and leadership effectiveness.
- Commit to attending at least one regional, state or national conference focused on technology use in education every year.
- Collaborate as a leadership team to identify and implement technology-based approaches to communicating, interacting and engaging with students, parents and your community. Desktop videoconferencing technologies, for example, are an easy-to-use, effective tool for communications and collaboration.
- Revise annual performance goals to include actions steps for developing technology skills; keeping current with technology; identifying opportunities to test technology systems to strengthen administrative functions or improve student learning; and modeling uses of hardware, software and compelling learning environments for the school community, including teachers and other staff members, students and parents.
- Understand the value of technology in terms of its costs and benefits.
- Develop and deploy coaches to improve every facet of district technology leadership.

Getting Up to Speed

BLE Group's quarterly newsletter, *SuperTECH NEWS*
<http://www.blegroup.com/supertechnews.htm>

CoSN Small District Technology Leadership Wiki
http://www.cosn.org/wiki/index.php?title=Main_Page

Davis, Michelle R. "The Knowledge Gap." *Education Week's Digital Directions*, Jan. 23, 2008.
<http://www.edweek.org/dd/articles/2008/01/23/3leadership.h01.html>

Educational Technology Standards and Performance Indicators for Administrators from the International Society for Technology in Education.
http://cnets.iste.org/administrators/a_stands.html

Map of Future Forces Affecting Education. The 2006–2016 KnowledgeWorks Foundation & the Institute for the Future.
<http://www.kwfdn.org/map/>

State Educational Technology Directors Association Technical Assistance Partnership Program
<http://www.setdatapp.org/>

Going Deeper

CoSN Compendium articles:

"The Emerging Role of the District CTO," *CoSN Compendium 2006*.

"What it Takes: Essential Skills of the K–12 CTO," *CoSN Compendium 2004*.

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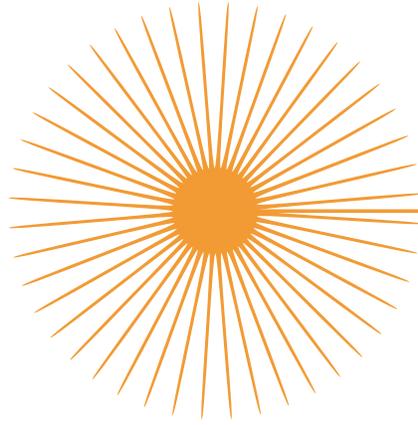
CoSN's Value of Investment Leadership Initiative
<http://www.edtechvoi.org/>

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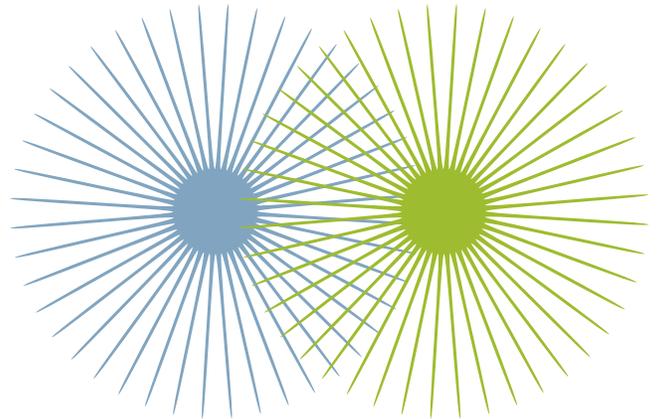
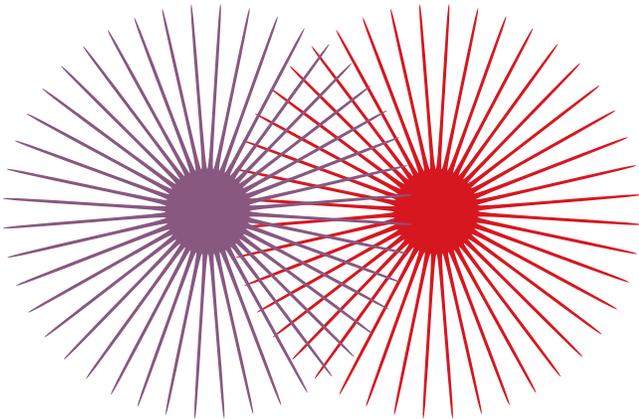
SETDA's National Trends Report 2008
<http://www.setda.org/>

SETDA Toolkits
<http://www.setda.org/web/guest/toolkits>

Tough Choices or Tough Times: The Report of the New Commission on the Skills of the American Workforce. National Center on Education and the Economy, 2007.



RAISE THE BAR
WITH 21ST CENTURY SKILLS



To be an effective technology leader, it is imperative for you to understand the kind of education that students need today to be prepared for workplace demands, citizenship challenges and personal success in an internationally competitive environment.



As you are no doubt aware, there is growing concern among educators, parents, policymakers and the business community that K–12 education is not hitting its mark. While student achievement is improving, it is not improving fast enough or dramatically enough for students to keep pace with and, eventually, compete with their peers internationally.

Further, **there is a sense that students need to master more than basic skills and traditional core subjects to be prepared for the digital economy.** There are new, different kinds of knowledge and skills that are valued by workplaces, communities and individuals. These skills are not taught as a matter of course in most schools today. Surveys of employers and postsecondary educators repeatedly point to the shortcomings of today’s graduates in readiness for higher-level workplace and educational challenges.

The related concerns about the rigor and relevance of education are evident all over the world. Internationally, the Programme for International Student Assessment (PISA) is fast becoming the new benchmark by which educational outcomes in reading, mathematics and science are measured. U.S. students are not faring well on this assessment compared with their peers in Canada, China, Finland, Germany, Japan, Korea and the United Kingdom, among many other nations.

Two other respected international assessments, the Trends in International Mathematics and Science Study (TIMSS) and the Progress in International Reading Literacy Study (PIRLS), yield similar findings. PISA is particularly telling, however, because it focuses not on students’ mastery of specific knowledge, skills and concepts—as PIRLS and TIMSS do—but on the application of knowledge in reading, mathematics and science to problems with a real-life context. The critical thinking and problem-solving skills that PISA measures are among those that many nations now are determined to teach.

Rigor and relevance also are the mantra of significant educational initiatives in the United States, including science, technology, engineering and mathematics (STEM), high school reform and striving reader initiatives.

The Partnership for 21st Century Skills, an advocacy organization made up of business, education and policy leaders, brings these strands together with its framework for 21st century learning. A growing number of states, policymakers, business groups and educational leadership organizations, including CoSN, endorse this framework, which captures the new kinds of knowledge and skills that students need to master to succeed in workplaces, participate effectively in society and lead productive lives. Ideally, districts and states should develop new standards that incorporate 21st century skills, rather than adding another layer of standards for schools to teach—and indeed, some districts and states are beginning to do this.

The framework for 21st century learning should be the guiding theory of action for technology leadership. Technology is a critical component of 21st century learning and an essential tool for developing 21st century skills—and technology competency is an essential skill in its own right.

“As these latest PISA results show, the global talent pool is increasing. We urgently need to develop a globally oriented world-class educational system to prepare students in the United States with the knowledge and skills to succeed.”

—Dr. Vivien Stewart
Vice President, Education
Asia Society

Action Steps for Superintendents and District Leadership Teams

- Learn about 21st century skills.
- Commit to improving your own 21st century skills.
- Engage your school community in a dialogue about 21st century skills.
- Set a vision for integrating 21st century skills into K–12 instructional programs.
- Conduct an audit that matches 21st century skills with your district’s strategic plan, then revise the plan to address any gaps you find.
- Develop and implement a professional development program for 21st century skills for you and your district leadership team.

Getting Up to Speed

Partnership for 21st Century Skills
www.21stcenturyskills.org

Programme for International Student Assessment
www.pisa.oecd.org

Progress in International Reading Literacy Study
<http://nces.ed.gov/surveys/pirls/>

Trends in International Mathematics and Science Study
<http://nces.ed.gov/timss/>

A Vision for K–20 Education. Software & Information Industry Association, 2007.
http://siia.net/education/pubs/VisionBooklet_2007.pdf

Going Deeper

E-learning Nordic 2006—Impact of ICT on Education
http://www.skolutveckling.se/digitalAssets/106585_English_eLearning_Nordic_Print.pdf

Pink, Daniel H. *A Whole New Mind: Why Right-Brainers Will Rule the Future.* Riverhead Hardcover, 2005.

Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future. Committee on Prospering in the Global Economy of the 21st Century: An Agenda for American Science and Technology. Committee on Science, Engineering, and Public Policy. National Academies of Sciences, National Academy of Engineering, and Institute of Medicine of the National Academies, 2007.
http://www.nap.edu/catalog.php?record_id=11463

Framework for 21st Century Learning

“You have to have a certain core set of skills—but with the rapid change that is going on, you have to be able to take those skills and apply them to new situations very dramatically and rapidly.”

— Dr. Mark Keen
 Superintendent
 Westfield Washington Schools
 Westfield, IN

21st Century Student Outcomes

Core Academic Subjects and 21st Century Themes, including:

- Global awareness
- Financial, economic, business and entrepreneurial literacy
- Civic literacy
- Health literacy

Learning and Innovation Skills

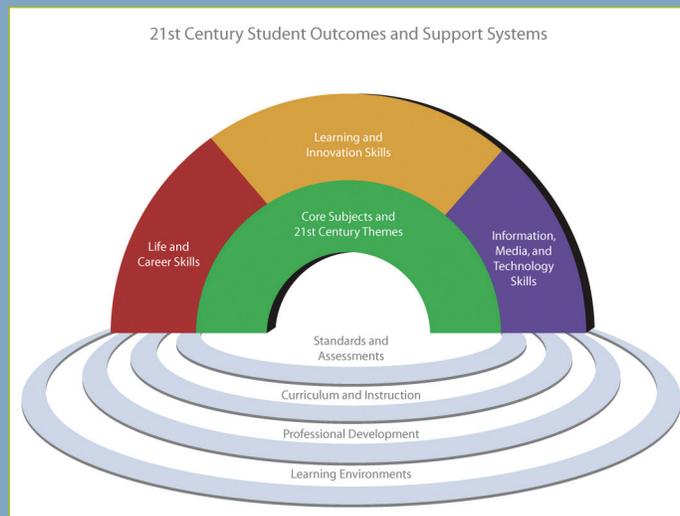
- Creativity and innovation skills
- Critical thinking and problem-solving skills
- Communication and collaboration skills

Information, Media and Technology Skills

- Information literacy
- Media literacy
- ICT (information and communications technology) literacy

Life and Career Skills

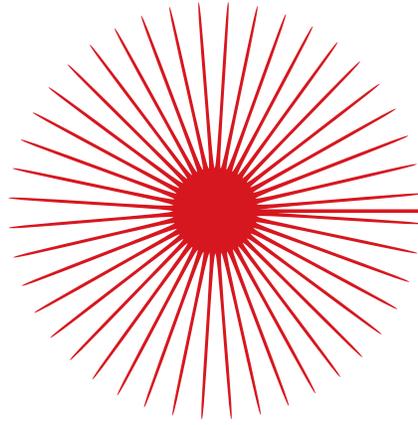
- Flexibility and adaptability
- Initiative and self-direction
- Social and cross-cultural skills
- Productivity and accountability
- Leadership and responsibility



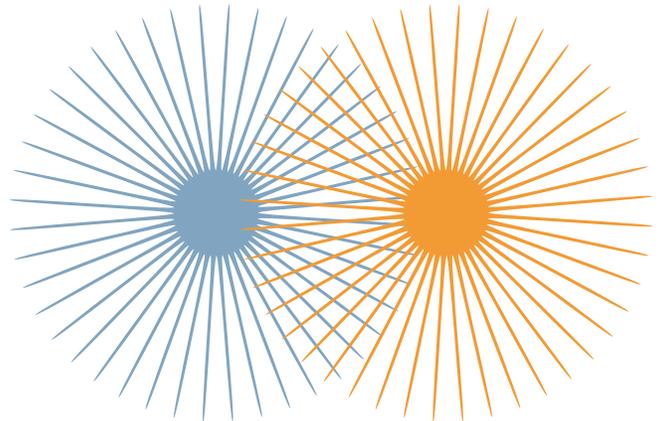
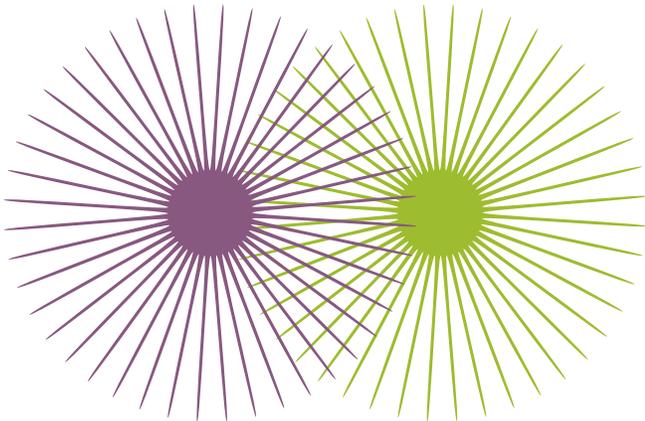
Source: Partnership for 21st Century Skills

21st Century Education Support Systems

- 21st century standards and assessments
- 21st century curriculum and instruction
- 21st century professional development
- 21st century learning environments



TRANSFORM PEDAGOGY
WITH COMPELLING
LEARNING ENVIRONMENTS



To be an effective technology leader, it is important to understand that reaching all students today requires new methods of teaching and different kinds of learning environments.



If you are like most educators, you have been involved in school improvement efforts of one kind or another for your entire career. The challenge today is to pull together all of your expertise to make an impact on student performance results that matter for the 21st century.

“Do something that makes a difference in the classroom” is becoming a call to action nationwide for a number of reasons:

- Higher expectations for all students—not just the easy-to-reach, easy-to-teach students—require teachers to incorporate different pedagogical approaches and strategies into their repertoires. Taking the “louder, slower” approach to helping students meet high standards simply isn’t working. Students of diverse backgrounds and competencies need targeted, individualized support to master the curriculum, not one-size-fits-all instruction.
- Different expectations for all students, including 21st century content and skills, demand more complex and wider-ranging learning opportunities and experiences. There is increasing emphasis on beyond-the-book learning—and applied learning—that can occur only when students take ownership of their own intellectual and skills development, which requires different dynamics between teachers and students.
- Years of research into how students learn critical knowledge, concepts and skills make it clear what works. Yet many research-based practices—such as conceptual learning in the content areas, inquiry-based instruction, real-world problem solving and critical thinking, differentiated instruction based on assessed student needs, apprenticeship (in which students learn from experts), constructive learning (in which students create their own knowledge), collaborative learning, and assessment-driven diagnosis and intervention—have yet to be incorporated into pedagogy across the curriculum and at every grade level.
- The allure of engrossing digital tools, entertaining experiences and social networking communities outside of school is making it increasingly difficult for educators to motivate and engage a large majority of students in academic learning with traditional pedagogy. Schools must create learning environments that are as engaging and relevant as the ones that students gravitate to outside of school.
- Traditional pedagogy and classroom learning environments bear little resemblance to the collaborative, creative, entrepreneurial, technology-rich environments students will face when they leave school. Students must be prepared to learn, produce, collaborate and create in these technology-intensive environments, which are ubiquitous in society.

In this environment, learning beyond the four classroom walls, the six- or seven-hour school day, and the “sage on the stage” pedagogical model are headed toward extinction.

“Technology should be used by teachers, students and others in the community to develop capacity, to think, interact, share ideas and resources, to focus energy and attention on student learning. Technology has the power to do that in a way we’ve never been able to do before. Not that we throw out everything we’ve been doing. Face-to-face interaction is still important. But we’re limited by time and space. Technology frees us to interact with people around the globe.”

—Dennis Richards
Superintendent
Falmouth Public Schools, MA

Used comprehensively and effectively, technology can help schools transform pedagogy, support students in acquiring 21st century skills, make learning environments more engaging and relevant, and personalize instruction.

Most superintendents can point to promising technology initiatives under way in their districts. One-to-one laptop programs, digital whiteboards in classrooms, distance learning, and online collaboration with experts, educators and students in other states or countries are just a few examples.

The challenge now is to incorporate technology deliberately into education across the board in ways that augment high-quality, face-to-face instruction with different kinds of interactions—such as student-to-student discussions about their understandings, engaging questions

that invoke higher-order thinking and student-led projects outside of school, for example—supported by individual and collaborative technologies, such as wikis and blogs for journaling, writing and reporting; online chats for after-school study groups; video streaming sites for presentations; portable digital devices for sharing multimedia content; and digital probes for observing and measuring scientific phenomenon.

Action Steps for Superintendents and District Leadership Teams

- Collaborate as a leadership team to prioritize your district's goals for transforming pedagogy, learning environments and 21st century skills outcomes, and investigate the ways in which technology can support these goals.
- Conduct a needs assessment and a gap analysis of the technology infrastructure and technology use in your district. (Where are you now? Where do you want to be?)
- Determine what your district needs to do to create a comprehensive, coherent, aligned system for using technology effectively to achieve your goals.
- Revise your district's technology plan, including projected infrastructure needs to accommodate planned technology growth.
- Develop and implement engaging curricula that include interdisciplinary studies, problem-based learning and the like.
- Provide professional development that enables teachers to move from traditional classroom management structures to compelling learning environments.
- Model compelling pedagogy in face-to-face and electronic learning environments.

Getting Up to Speed

Executive summaries of reports from CoSN's Emerging Technologies Series:

Collaboration in K–12 Schools: Anywhere, Anytime, Any Way
http://www.cosn.org/resources/emerging_technologies/collaboration.cfm

Digital Learning Spaces 2010
http://www.cosn.org/resources/emerging_technologies/learningspaces.cfm

Hot Technologies for K–12 Schools
http://www.cosn.org/resources/emerging_technologies/hot.cfm

A Guide to Handheld Computing in K–12 Schools
http://www.cosn.org/resources/emerging_technologies/handheld.cfm

CoSN *EdTechNext* mini-reports
http://www.cosn.org/resources/emerging_technologies/EdTechNext.cfm

E-Rate: A Vision of Opportunity and Innovation. Education and Library Networks Coalition, July 2003.
<http://www.edlinc.org/pdf/ERateReport070803lores.pdf>

E-Rate: 10 Years of Connecting Kids and Community. Education and Libraries Networks Coalition and National Coalition for Technology in Education and Training, February 2007.
http://www.edlinc.org/pdf/NCTETReport_212.pdf

Essential Conditions: Necessary Conditions to Effectively Leverage Technology for Learning. International Society for Technology in Education
http://www.iste.org/inhouse/nets/cnets/students/pdf/NETS-S_Essential_Conditions.pdf

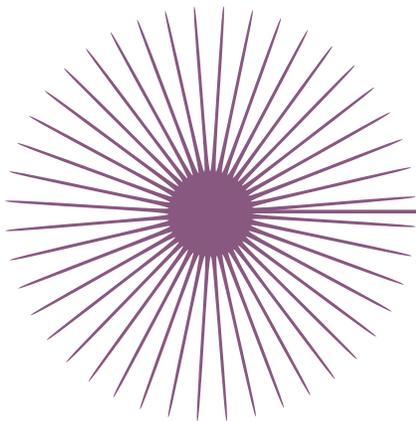
Maximizing the Impact: The Pivotal Role of Technology in a 21st Century Education System. International Society for Technology in Education, Partnership for 21st Century Skills and State Education Technology Directors Association, 2007.
<http://www.setda.org/web/guest/maximizingimpactreport>

Networked for Learning: Enabling 21st Century Student Success. ENA and Infotech Strategies, 2006.
http://www.ena.com/files/PDF/wp_networkedforlearning.pdf

Socratic Arts
<http://www.socraticarts.com/>

Going Deeper

Donovan, M.S., and Bransford, J.D., Eds. *How Students Learn: History, Mathematics, and Science in the Classroom*. Committee on How People Learn, National Research Council, Division of Behavioral and Social Sciences and Education, the National Academies Press, 2005.



To be an effective technology leader, it is critical for you to understand that all educators, including administrators, need sustained, job-embedded opportunities to improve their knowledge and skills, collaborate with their peers and build collective wisdom.

SUPPORT PROFESSIONAL DEVELOPMENT AND COMMUNITIES OF PRACTICE



Professional development is likely your biggest challenge in changing educational mindsets and practices and improving student achievement in your schools.

Even your best educators need professional development to learn about, practice and reflect on your district's current priorities—as well as 21st century skills, different pedagogical strategies and effective integration of technology into

every aspect of education.

The most effective professional development is sustained, job-embedded and connected to educators' everyday work. It offers educators regular and ongoing support from coaches, master teachers or mentors, who can lead study groups, model effective strategies and offer real-time advice.

Professional learning communities and communities of practice also offer teachers and administrators opportunities to develop and sustain a culture of learning and support. Teams of educators with similar responsibilities or expertise, such as content-area or grade-level teachers, can collaborate on learning activities, examinations of student work and assessment results, joint lesson planning and problem solving in a spirit of continuous improvement and experimentation. Over time, these groups can build a shared vision and capacity for instructional excellence and improved student achievement.

Technology should be infused into professional development and communities of practice, both as a way to develop technology proficiency and other knowledge and skills and as a powerful delivery mechanism.

Many educators, like other adults, do not become comfortable or proficient with technology without some direct instruction, supported by adult learning modalities, and practice. For districts to expect educators to use new technologies effectively, they need to provide them with models and support early adopters who can then work with others in their schools. Technology-savvy educators or technology coordinators can serve as expert leaders in their buildings.

Clearly, professional development and collaboration can be labor- and time-intensive. Educators need time in the regular school day and school year to collaborate and develop their professional knowledge and skills.

But technology can ease the burden. Districts can use their Web sites to post content, such as standards- and research-based resources, multimedia

learning objects, video clips of effective teaching practices and podcasts from experts. They can join forces with other districts, with their states or with area colleges and universities, or with commercial educational providers to create or take advantage of online professional development, ranging from short Webinars on specific topics to full-credit courses. And they can use modern technologies—such as videoconferencing, Web conferencing, chat programs, instant messaging, voice threads, online document sharing and collaboration tools—that enable people to work together without necessarily getting together in the same room.

“We have high expectations of our staff. We don’t want you to work here unless you are comfortable with and able to use technology.”

—Dr. Chip Kimball
Superintendent
Lake Washington School District
Redmond, WA

Action Steps for Superintendents and District Leadership Teams

- Collaborate as a leadership team to determine current and new professional development needs and investigate ways in which technology can support these needs.
- Determine what your district needs to do to implement technology-based professional development and communities of practice.
- Provide technology that enables every educator to participate in an online or technology-based community of practice with peers across and outside of your district.
- Review how other school systems are accessing online or technology-based professional development content.
- Provide peer coaches who understand and practice effective pedagogy in compelling learning environments to lead professional development sessions. Focus on skill development, not content.
- Identify pockets of excellence and use these environments as standards for school improvement.
- Use technology to meet the diverse needs of students.

Getting Up to Speed

Educational Technology Standards and Performance Indicators for All Teachers. International Society for Technology in Education
http://cnets.iste.org/teachers/t_stands.html

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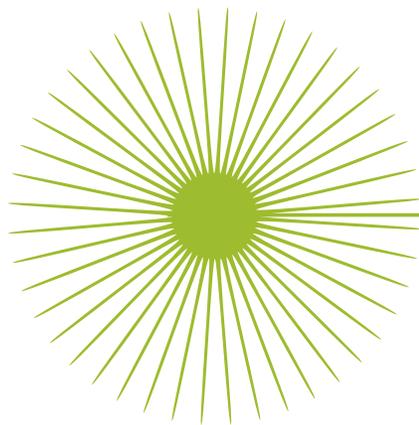
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CREATE BALANCED ASSESSMENTS

To be an effective technology leader, you should stay on top of emerging issues and trends in education and technology, such as balanced assessments, and create ways to develop expertise in these issues within your district.



For many of the same reasons that your district should raise the bar with 21st century skills, you and your leadership team also should widen the aperture on your assessment systems.

As you know, the nation is well into the era of accountability. That may change in the coming years, but is not likely to go away. But just as the traditional curriculum, pedagogy and classroom learning environments aren't meeting the needs of students today, high-stakes tests alone don't provide educators or parents all they need to know about student performance.

Monitoring how well students are learning requires a balanced assessment system—one in which assessments are used not only to measure knowledge at the end of instruction, but also to improve learning during instruction, and one that measures both core subject mastery and 21st century skills.

There is increasing interest—and research and development activity by school districts, higher education and assessment companies—in new kinds of assessments that can fulfill these needs.

A balanced assessment system should include both summative and formative assessments. Summative assessments provide valuable information about student understanding of expected outcomes. These assessments should measure more than recall of information and should include assessment of such 21st century skills as critical thinking and problem solving that are needed in the workplace and college. Formative assessments should balance summative assessments. These interim and benchmark assessments and classroom evaluation tools help educators gauge how well students are progressing toward specific outcomes, which may be assessed on a summative assessment, and demonstrate students' current knowledge and skills.

Formative assessments can be incorporated, for instance, into classroom discussions, teacher–student conferences and student work. These assessments can help teachers evaluate critical thinking and problem-solving skills, work ethic, and communication and collaboration skills, as well as content knowledge. Used appropriately, these assessments can have an immediate impact on daily instruction and learning.

Technology has a role to play in both summative and formative assessments. Technology-based assessments can give teachers and administrators instant diagnostic information they can use to make better decisions and improve instruction.

Translating and transferring assessment data to the classroom remains an issue—and one that technology can help address with faster and easier access to student performance reports, learning and collaboration tools, and professional development.

“Student assessment data, along with grades and local assessments, can be used to determine how fractured or cohesive the educational environment may be.”

— Dr. Larry Buchanan
Superintendent
Grant Joint Union
High School District
Sacramento, CA

Action Steps for Superintendents and District Leadership Teams

- Form a leadership task force to investigate new, technology-based assessments that measure core subject mastery and proficiency in 21st century skills.
- Consider a pilot project with a partner in higher education to create technology-based formative assessments.
- Support teachers and administrators in making better use of assessment information to improve instruction and individualize learning for every student.
- Implement an alternative assessment program in your schools.
- Start a professional learning community with your teachers on formative assessments with experts in the field.
- Use technology to create K–12 student portfolios that students can take with them when they graduate.

Getting Up to Speed

CoSN’s Data-Driven Decision Making Initiative

From Vision to Action: How School Districts Use Data to Improve Performance

<http://www.3d2know.org/publications/FromVision2ActionExecutiveSummary.pdf>

Council of Chief State School Officers Initiative

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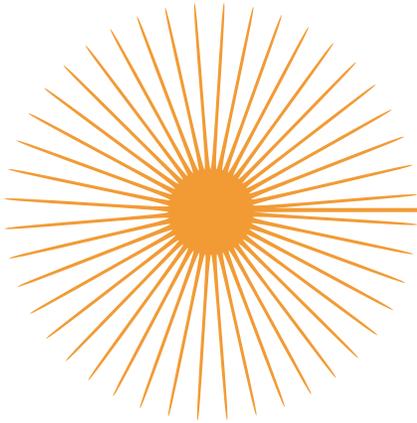
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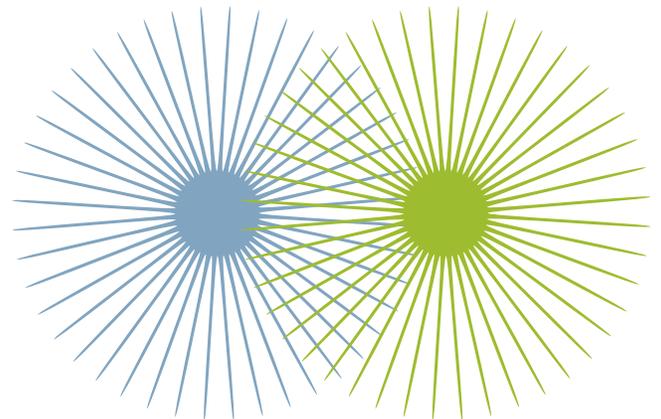
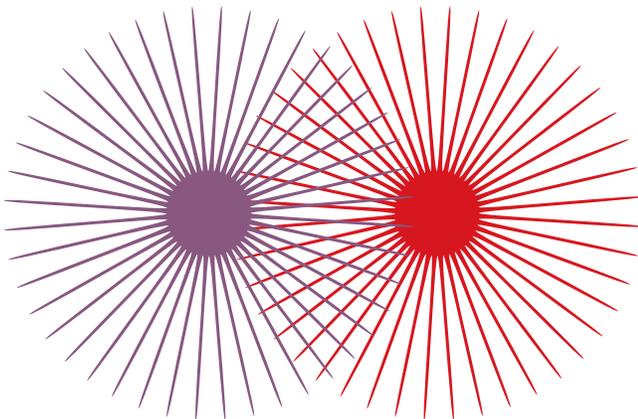
CONCLUSION



The most dynamic industries in this country have integrated technology throughout their enterprises. They are reaping the benefits in terms of productivity, efficient and effective management and operations, continuous improvement and reinvention, creativity and results.

It's time for education systems to embrace technology at full tilt as well. **Superintendents and district leadership teams must adopt the mindset that is typical in the business world: Why would we try to achieve our goals without making intensive use of technology?**

Technology isn't a novelty anymore. It is essential for organizations and individuals to learn and work, to think and collaborate, to compete and succeed. And clearly, schools are—or should be—in the business of preparing students to do just that.





Consortium for School Networking Superintendent Task Force

Chairs

Lillian Kellogg, Vice President, Education Networks of America (ENA)
Dr. Chip Kimball, Superintendent, Lake Washington School District, WA
Dr. John Q. Porter, Consultant

Kevin Bushweller, Executive Editor, Education Week's Digital Directions
Sherita Dawkins, Executive Assistant, Education Networks of America (ENA)
Dr. Milt Dougherty, Superintendent, Unified School District 444, KS
Dr. Mark Edwards, Superintendent, Mooresville Graded School District, NC
Bob Ginn, Vice President, Sales, K.C. Management
Pat Henry, Director of Marketing & Business Development, Promethean
Kathy Hurley, Senior Vice President, Pearson Education
Dr. Eileen Lento, K-12 Education Strategist, Intel
Dr. Helen Soule, former Executive Director, Cable in the Classroom
Jan Zanetis, Market Development Manager, Education, TANDBERG

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Consortium for School Networking

1025 Vermont Avenue, NW

Suite 1010

Washington, DC 20005

202-861-2676

toll-free 866-267-8747

www.cosn.org