CoSN Mission

CoSN serves K-12 technology leaders who through their strategic use of technology, improve teaching and learning.

Core Value
The primary challenge is human, not technical

Audience
School system technology and education leaders

The CoSN Focus
Leadership and Policy
Technologies of 1992
What technology has had greatest impact on education over past 25 years?

Go to goo.gl/fpJKqJ
Seymour Papert
Education technology pioneer, MIT

http://edscoop.com/timecapsule/2017/winners/

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Salman Khan
Founder, Khan Academy

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We are coming into a period of EXPONENTIAL Change?

Quiz: how many exponential steps would it take to go around the world 8 times?
Making Sense of Exponential Change
by KnowledgeWorks

Step 1: 1 ft
Far too small to appear here at scale.

Step 10: 512 ft
Almost as tall as the Washington Monument.

Step 17: 65,536 ft
Approximate height of a proposed 12-mile-high space elevator.

Step 30: 1,073,741,824 ft
Far enough to circle the earth eight times. At scale, this is much too tall to fit on this screen.

Step 28: 126,139,200 ft
High enough to scale Mount Everest roughly 4,356 times.
Four Industrial Revolutions

1800s  1900s  1980s  Today

knowledgeworks.org
Rise of Smart Machines
TEMP WANTED
KEY TRENDS

LONG-TERM TRENDS
• Redesigning Learning Spaces
• Rethinking How Schools Work

MID-TERM TRENDS
• Collaborative Learning
• Deeper Learning Approaches

SHORT-TERM TRENDS
• Coding as a Literacy
• Students as Creators
SIGNIFICANT CHALLENGES

SOLVABLE CHALLENGES
• Authentic Learning Experiences
• Rethinking Teachers’ Roles

DIFFICULT CHALLENGES
• Advancing Digital Equity
• Scaling Teaching Innovations

WICKED TRENDS
• Achievement Gap
• Personalizing Learning
EDTECH DEVELOPMENTS

ONE YEAR OR LESS
• Makerspaces
• Online Learning

TWO TO THREE YEARS
• Robotics
• Virtual Reality

FOUR TO FIVE YEARS
• Artificial Intelligence
• Wearable Technology
## Trends

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<tbody>
<tr>
<td><strong>Near Term One Year or Less</strong></td>
<td>Grassroots Video</td>
<td>Collaborative Environments</td>
<td>Cloud Computing</td>
<td>Mobile Devices Apps</td>
<td>Cloud Computing</td>
<td>BYOD</td>
<td>BYOD</td>
<td>Makerspaces</td>
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<td>Collaborati...</td>
<td>Online Communication Tools</td>
<td>Collaborative Environments</td>
<td>Mobiles</td>
<td>Tablet Computing</td>
<td>Mobile Learning</td>
<td>Cloud Computing</td>
<td>Makerspaces</td>
<td>Online Learning</td>
<td>Robotics</td>
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<td><strong>Mid Term Two to Three Years</strong></td>
<td>Mobile Broadband</td>
<td>Mobiles</td>
<td>Mobiles</td>
<td>Game-Based Learning</td>
<td>Game-Based Learning</td>
<td>Learning Analytics</td>
<td>Games and Gamification</td>
<td>3D Printing</td>
<td>Robotics</td>
<td>Analytics Technologies</td>
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<td>Data Mashups</td>
<td>Cloud Computing</td>
<td>Game-Based Learning</td>
<td>Open Content</td>
<td>Personal Learning Environments</td>
<td>Open Content</td>
<td>Learning Analytics</td>
<td>Adaptive Learning Technologies</td>
<td>Virtual Reality</td>
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<td><strong>Far Term Four to Five Years</strong></td>
<td>Collective Intelligence</td>
<td>Smart Objects</td>
<td>Augmented Reality</td>
<td>Learning Analytics</td>
<td>Augmented Reality</td>
<td>3D Printing</td>
<td>The Internet of Things</td>
<td>Digital Bad</td>
<td>Artificial Intelligence</td>
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<td>Social Operating Systems</td>
<td>The Personal Web</td>
<td>Flexible Display</td>
<td>Personal Learning Environments</td>
<td>Natural User Interfaces</td>
<td>Virtual and Remote Laboratories</td>
<td>Wearable Technology</td>
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<td>The Internet of Things</td>
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New Horizon Digital Toolkit

Tools and Resources for Engagement:

- Event Formats and Options
- Discussion Catalysts
- Sample Invitations
- Social Media

www.cosn.org/horizon
New CoSN series informs smart technology strategies for schools, with teaching + learning at the center.

cosn.org/k12innovation
Roadblocks that force schools to slow down, prepare themselves + make the leap.
Real-world megatrends that drive the needs + skills expected of learners + practitioners
The tools that grease the wheels for schools to surmount Hurdles and take advantage of Accelerators in the near to distant future
2019 SERIES RELEASE DATES

- January: Hurdles
- April (CoSN Conference): Accelerators
- June (ISTE Conference): Tech Enablers + Toolkit

cosn.org/k12innovation
Key Long Term Trends

Trend 1: Digital Divide (devices & access)
Trend 2: Internet Safety
Trend 3: Acceptable to Responsible Use
Trend 4: Privacy
Trend 5: Digital Equity (broadband anywhere)
Trend 1: Digital Divide

- Devices
- Basic Internet Access
Ubiquity of Devices

Over 80% of districts say 1-to-1 device/student is their goal for high & middle schools

Self-Reported Full 1-to-1 Implementation
- Middle Schools – 53%
- High Schools – 47%
- Elementary Schools – 33%
Trend 2: Safety

Safety concerns shape technology’s use in education over past two decades…
Trend 3: Acceptable to Responsible Use

Acceptable Use Policies (AUP) becoming Responsible Use Policies (RUP)
Trend 4: Privacy of Data

Greatest threat to personalizing learning
Privacy to Trust

Circle of Trust

YOU
“Trust is the glue of life. It's the most essential ingredient in effective communication. It's the foundational principle that holds all relationships.”

- Stephen Covey

Apply at TrustedLearning.org
Trend 5: Digital Equity

No longer is basic connectivity sufficient. Learning is digital. Students and teachers need broadband anywhere, anytime.
Progressive Infrastructure At School

• The majority of school districts today (85 percent) fully meet the Federal Communications Commission’s (FCC’s) short-term goal for broadband connectivity of 100 Mbps per 1,000 students.

• Increased Wi-Fi reliability, which is now largely ubiquitous.

CoSN/AASA 2017 Infrastructure Survey www.cosn.org/Infrastructure2017
Affordability is the most significant barrier to broadband

Bandwidth:

- More than half of the districts reported that none of their schools meet the FCC’s long-term broadband connectivity goal of 1 Gbps per 1,000 students.
At-School Infrastructure (cont’d)

Lack of Provider Competition.

- 43% of all districts receive one or fewer qualified proposals for broadband services in 2017.

- Rural districts comprise nearly 60 percent of all districts that receive one or no bids for broadband services. This lack of competition remains a significant burden for rural schools.
Digital Equity: Outside of School

80% of 8th graders report using a computer at home for schoolwork on a weekday.
Digital Equity: Outside of School

Good news:
77% of U.S. households have broadband access

BUT:
61% of households with school-age children have home broadband access
Low-income homes with children are FOUR TIMES more likely to lack broadband vs. middle/upper income families.

American Indian/Alaska Native, Black and Hispanic students have lower rates of home internet access.
Yet 2/3rds report doing nothing to address outside of school technology access

www.cosn.org/Infrastructure2016

42% of district tech leaders ranked addressing lack of broadband access outside of school as a “very high priority”
The Homework Gap

www.cosn.org/digitalequity
Transformation. Momentum.

From Digital Divide to Digital Equity
From Acceptable Use to Responsible Use
From Privacy to Trust

Become an education technology leader.
Predicting
Inventing the Future

Three Essential Conditions
I. Starting with the *Why?*
II. Building Human Capacity…
   Including Leaders
III. Creating a Culture of Innovation
I. Answering the WHY?
KEY TRENDS ACCELERATING ED TECH

LONG-TERM TRENDS
• Advancing Cultures of Innovation
• Deeper Learning Approaches

MID-TERM TRENDS
• Growing Focus on Measuring Learning
• Redesigning Learning Spaces

SHORT-TERM TRENDS
• Coding as a Literacy
• Rise of STEAM Learning
What Is Your WHY?

At your table, discuss why technology is (or isn’t) part of your education strategy.
II. The Problem Is Us

The primary challenge we face in using technology effectively is human, not technical.
Empowered Superintendent

5 Imperatives for Technology Leadership

- Strengthen District Leadership and Communications
- Raise the Bar with Rigorous, Transformative and Innovative Learning and Skills
- Transform Pedagogy with Compelling Learning Environments
- Support Professional Development and Communities of Practice
- Create Balanced Assessments

www.cosn.org/superintendents
FRAMEWORK of Essential Skills of the K-12 CTO

www.cosn.org/framework
www.cosn.org/certification

Leadership & Vision
Educational Environment
Managing Technology
Certified Education Technology Leader (CETL™)
What are you doing to Build Human Capacity?

At your tables, discuss how you are building leadership capacity for a digital leap.
III. Creating Culture of Innovation – moving from Islands to Systems
“I haven’t failed. I’ve just found 10,000 ways that won’t work.”

Thomas Edison

TIP: Celebrate Failure
Failfest Time

Discuss a technology that you tried to implement that didn’t work out the way you intended. What did you learn from that experience?
Other CoSN Resources

Becoming Assessment Ready

www.cosn.org/assessment

Smart Education Networks by Design

www.cosn.org/SmartEdNetworks

Guide to the Cloud

http://www.cosn.org/cloud

Leadership for Mobile Learning

www.cosn.org/MobileLead
CyberSecurity
for the digital district • a CoSN leadership initiative

www.cosn.org/cybersecurity

- Cybersecurity Planning Rubric
- Cybersecurity Planning Template
- Cybersecurity Self Assessment

ransomware

Member-Only

Digital Accessibility Toolkit

www.cosn.org/digitalaccessibility
CoSN Member Only Alerts & Webinars

- What You Need To Know About The Homework Gap
- Privacy Concerns Around Consumer AI in the Classroom
- The Screen Time Debate

And more!
FREE One Pagers for Supts, Cabinets & School Boards

Accessibility
Cloud Computing
The Importance of Cybersecurity
Leadership for Mobile Learning
Online Assessment
Student Data Privacy
Smart Network Design for Transformation & Innovation
Strategic Technology Planning and Investment
Closing the Homework Gap

www.cosn.org/superintendents
CoSN EdTechNext Report, an Exclusive Member Benefit
Now this is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning.

Winston Churchill

Keith Krueger
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www.cosn.org