



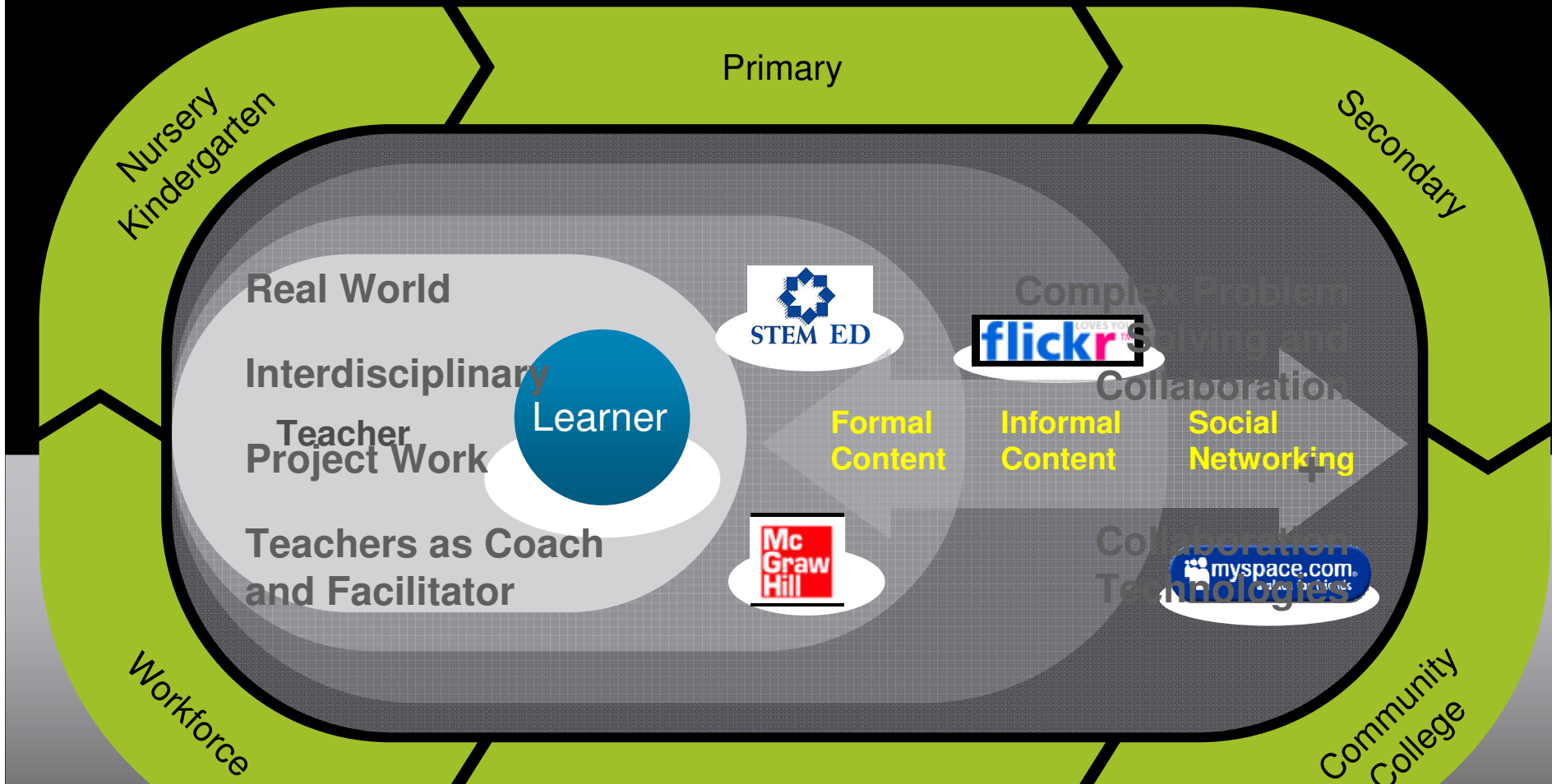
Education Transformation through Connected Learning



11 June, 2008

Joseph Lin, Industry Lead, Public Sector, Asia Pacific, Cisco

21st Century Pedagogy: How Learners Best Engage



Knowledge Acquisition > Knowledge Deepening > Knowledge Creation

Source: Team Analysis and Robert B. Kozma



Author - David Dickinson

Based on an idea by Fred Cavazza

Real Life Vs Virtual Life

Statistics and Trends

- Web 2.0 in the US

85 percent of U.S. college students use Facebook.

One in four Americans have a MySpace account.

94 percent of U.S. teenagers send emails over the Internet; nearly three out of four teenagers use social networking sites and go universities online at least once a day.

At least 136 U.S. have an education channel on YouTube. One in every three videos viewed in the United States in January 2008 was a YouTube video.

More Statistics and Trends

TelePresence Enables High-Quality, Virtual Face-to-Face Interactions

Mobility

682,500 Wi-Fi phones were sold worldwide in 2007, up more than 60 percent from 2006

Many professors use mobile devices to notify students of class updates, conduct quick quizzes or polls, and submit data while doing classroom field work

- **Collaboration**

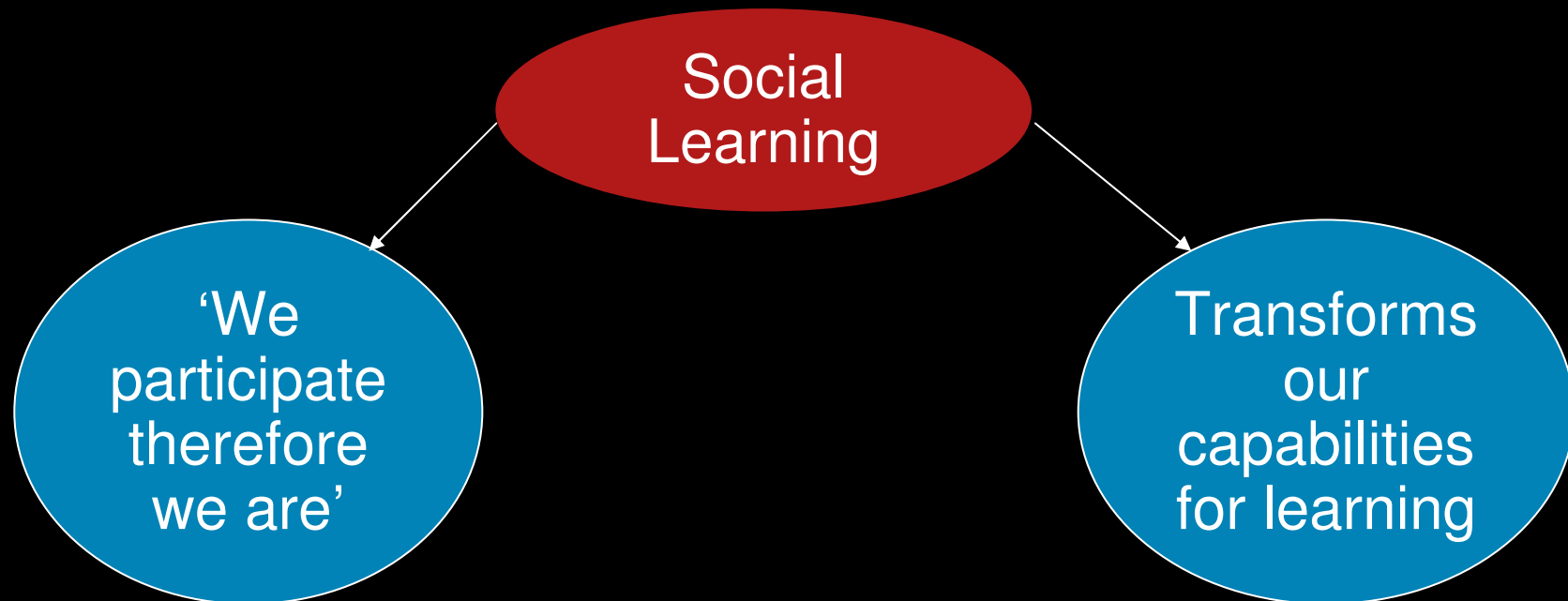
The National LambdaRail enables more than 300 higher-education institutions and 227 medical schools and hospitals to conduct virtual meetings via TelePresence.

WebEx is used extensively to conduct classes at many U.S. universities, including Princeton and Emory.

Source: Cisco, 2008

The Power of Us

“Shifts the focus of our attention from the content of a subject to the learning activities and human interactions around which content is situated”.



How does that become operational in an education setting

We Believe the Education Game Is Changing



The Learner

Lives an Online Life

Attends a Disconnected Classroom

Facing Large Scale Disruption

Education System

In Need of a Bold and Urgent Response



The Employer

Demands New 21st Century Skills

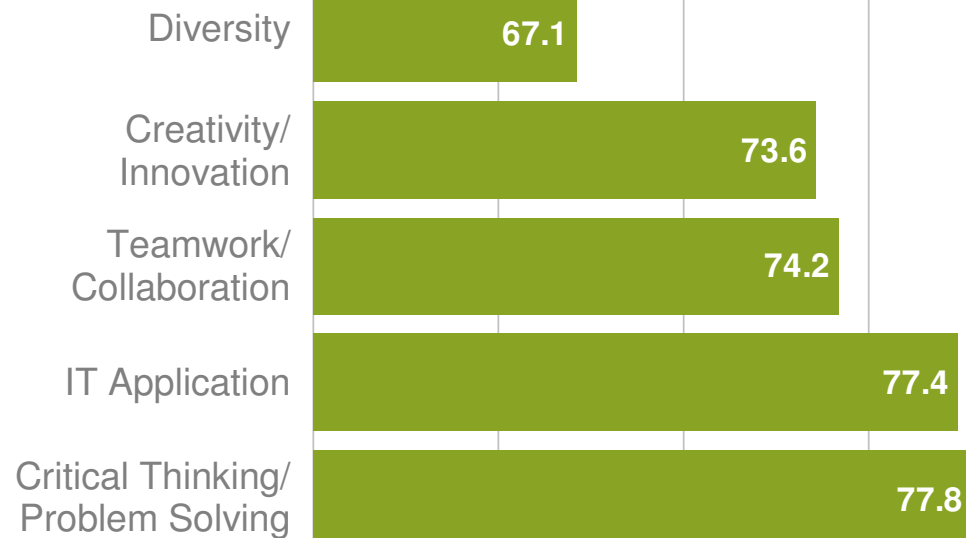
Demands Strong Basics

Employers are Adapting to the Challenges of Global Competition

% Employers Think 21st Century Skills Will Be More Important in Graduates over Next 5 Years*

“The best employers the world over will be looking for the most creative, most innovative people on the face of the earth.”

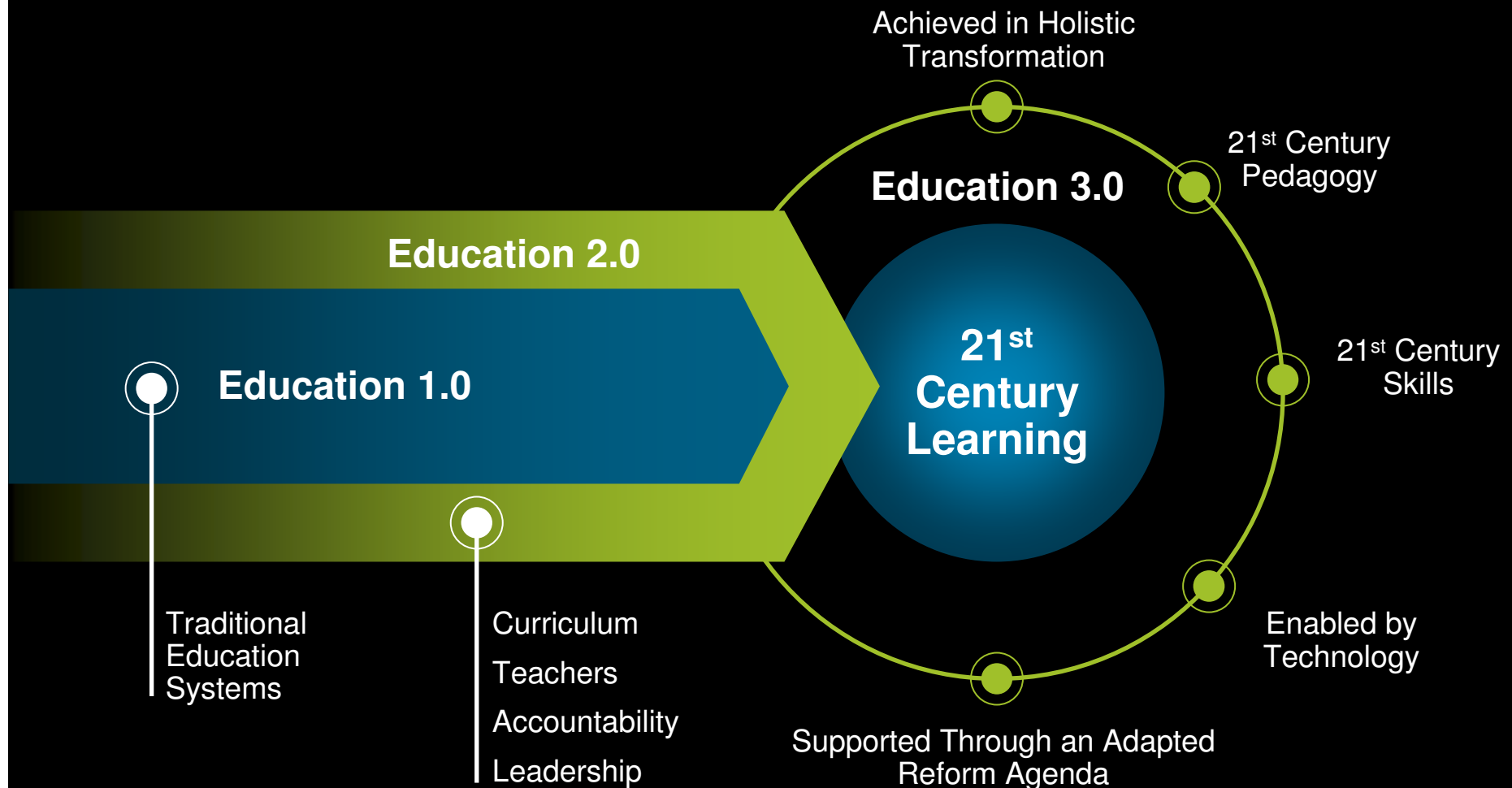
Tough Choices for Tough Times, 2007



Results refer to US 2-year college and technical diploma graduates, but are similar for high school and 4-year college diploma graduates

Source: National Council on Economic Education, *Tough Choices or Tough Times?—The Report of the New Commission on the Skills of the American Workforce*, Washington, 2007; Workforce Readiness Project, 2006.

Education 3.0—a Paradigm Shift



Education 3.0 Change Model

Holistic System Transformation

21C Learning Vision

- Engaged student centric
- Immersive collaborative environment
- Digital collaborative practices

21C Pedagogy

Reform

- Collaborative accountability
- 21C Curriculum
- Teacher quality focus
- Model leadership

21C Learning

- Collaboration ready networks (V, V, D)
- Digital learning environment

Technology

21C Skills

- STEM+
- Creativity and Collaboration

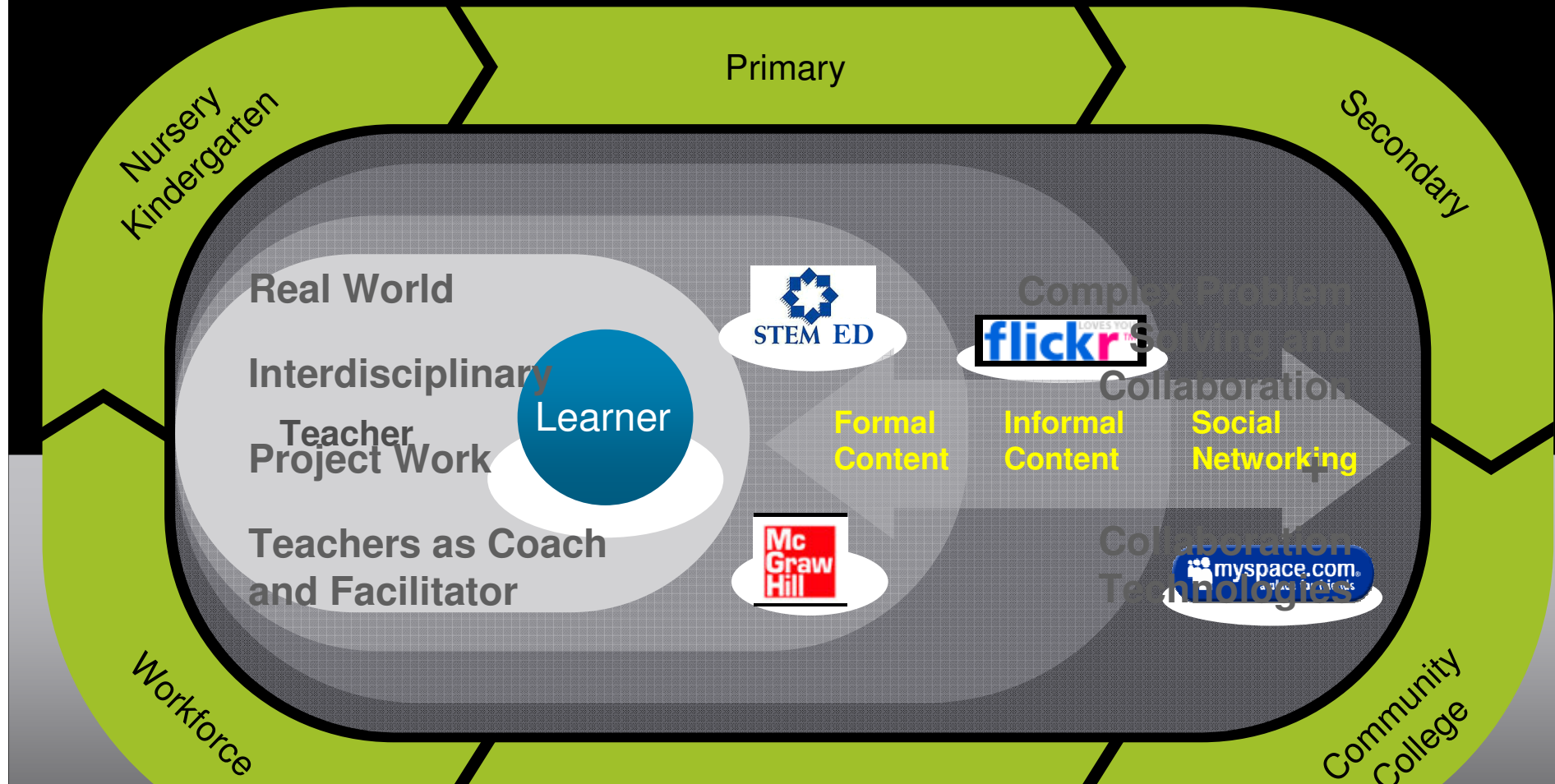
Enablers

Collaborative Prof Development

- Weekly dedicated time
- Model transformed pedagogy

- Communities of practice 100% Baseline Connectivity
- Deploy Synchronize installations with professional development

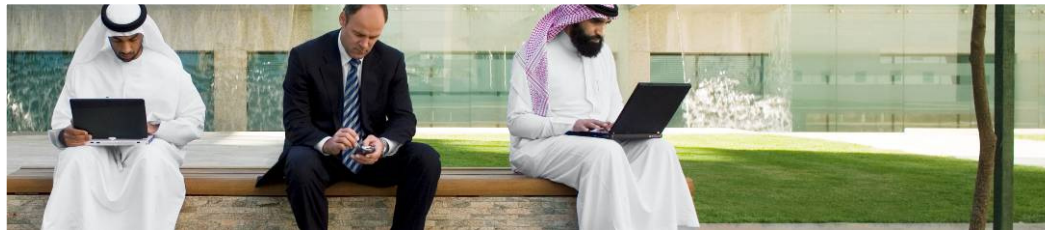
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Creativity and Collaboration Are the Foundations of 21st Century Learning and a 21st Century Economy



Innovative Economies



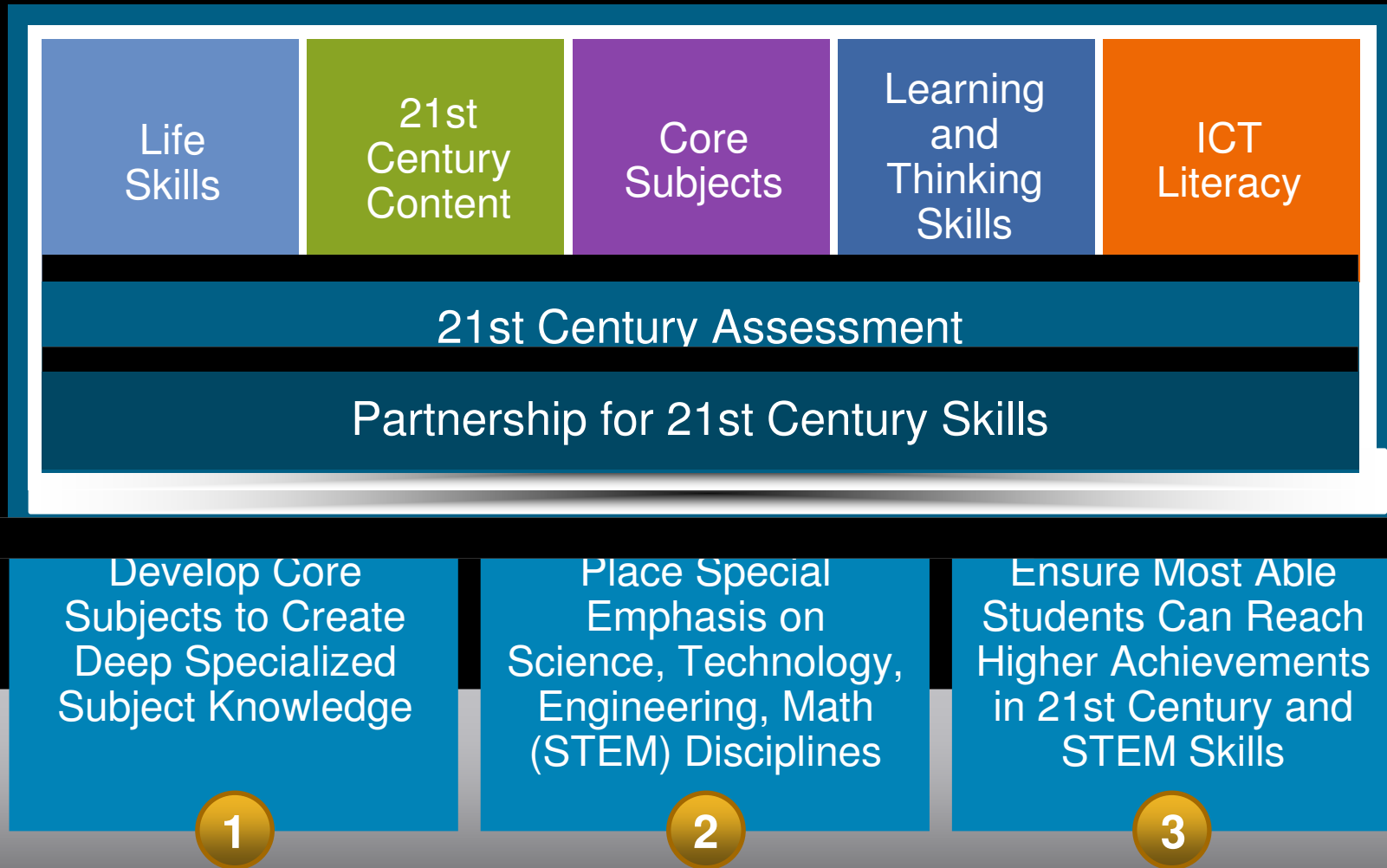
A More Innovative Workforce with 21st Century Skills

Deep Expertise
Creativity

Leading to...

Interdisciplinary Focus
Team-Based Problem Solving

21st Century Skills: What Learners Need to Know



Source: Developing a Framework for 21st Century Learning,
Partnership for 21st Century Skills, April 21, 2007; team analysis

21st Century Technology: The Accelerant of System Change

Automation Phase 1



“My school is more efficient.”

Organization Phase 2



“I can view critical and whole system information.”

Collaboration Phase 3



“I can support transformational teaching and learning.”

Paradigm Shift to 21st Century Learning...Right for Every System

Why Everyone?

Global Competition

Innovation: The
Critical Driver of
Productivity

Talent Is Now a
Global Market

What's Globally Consistent?

Creativity and
Collaboration Skills

Leadership to
Drive Change

Technology as
an Accelerant

What's Locally Tailored?

National/Regional
Competitiveness

Basic Capacity Gaps

How to Sequence
Your Path to 21st
Century Learning

Presents a Transformational Challenge to Leaders

	From: High Performing System (Ed 2.0)	To: Connected Learning (Ed 3.0)
Curriculum	Excellence in 'Core Subjects'	Excellence in 'Core Subjects' Plus 21st Century Skills
Assessment	Assessment of Traditional Skills in Traditional Ways	New Assessment Framework for 21st Century Skills
Pedagogy	Teacher Imparted Knowledge 'Acquisition'	Learner-Centric Knowledge 'Acquisition', 'Deepening', and 'Creation'*
Technology	Automated Processes, Devices, and Connectivity	Enabler of Better Teaching and Learning
Professional Development	Traditional and Formal Approach to Qualifications and Training	Ongoing Collaborative Learning in Teacher Communities

*Refers to the thinking of Robert Kozma



Cisco Connected Learning

What is Connected Learning?

- Connected Learning is Cisco's vision for how technology helps education institutions build the right infrastructure to transform education, enhance administrative efficiency and achieve academic excellence.

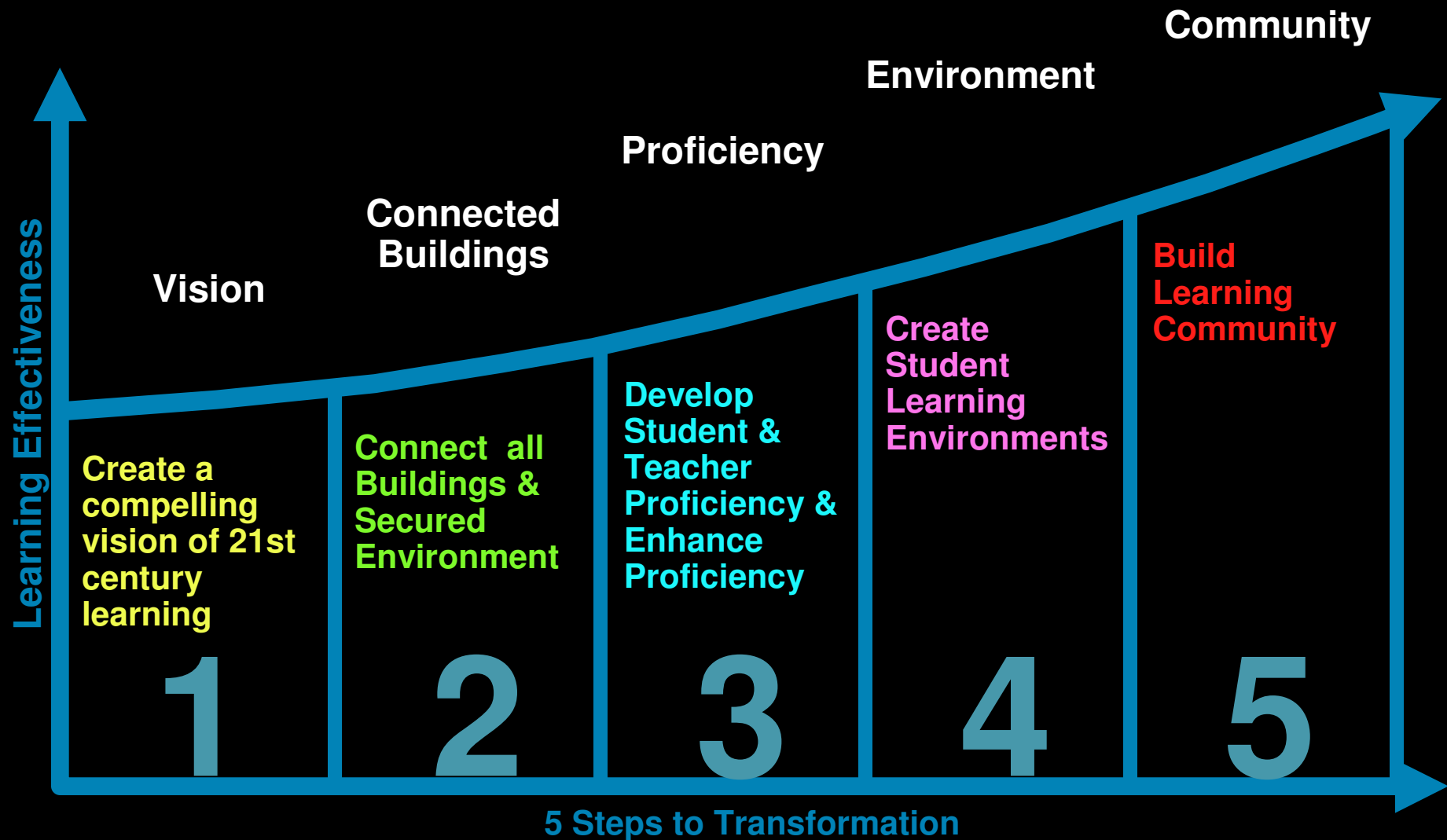


Characteristics of Connected Learning

- Creates environments similar to the outside world
- Streamlines and automates information flow and processes
- Enables effective communication within the campus, out to the home & the community
- Offers learning opportunities for both students and teachers 24/7
- Embeds technology across every aspect of the organization



5 Steps to Transformation



Step 1



Create a Compelling Vision

Understanding Your Institution's Needs and Gaining Consensus

- Educational Goals
- Mission
- Departments:
 - Curriculum & Assessment
 - Technology
 - Professional Development
 - Human Resources
 - Facilities
 - Transportation
- Funding
- Support from Board and Community



Benefits of Building the Vision

- Develops inter-departmental, administration and community consensus
- Establishes strong partnership with staff, students, parents and community
- Articulates long term plan that addresses:
 - Support, scalability and sustainability
- Differentiates your institution from other
- Creates new support opportunities for institution as “hub” and economic driver in the community



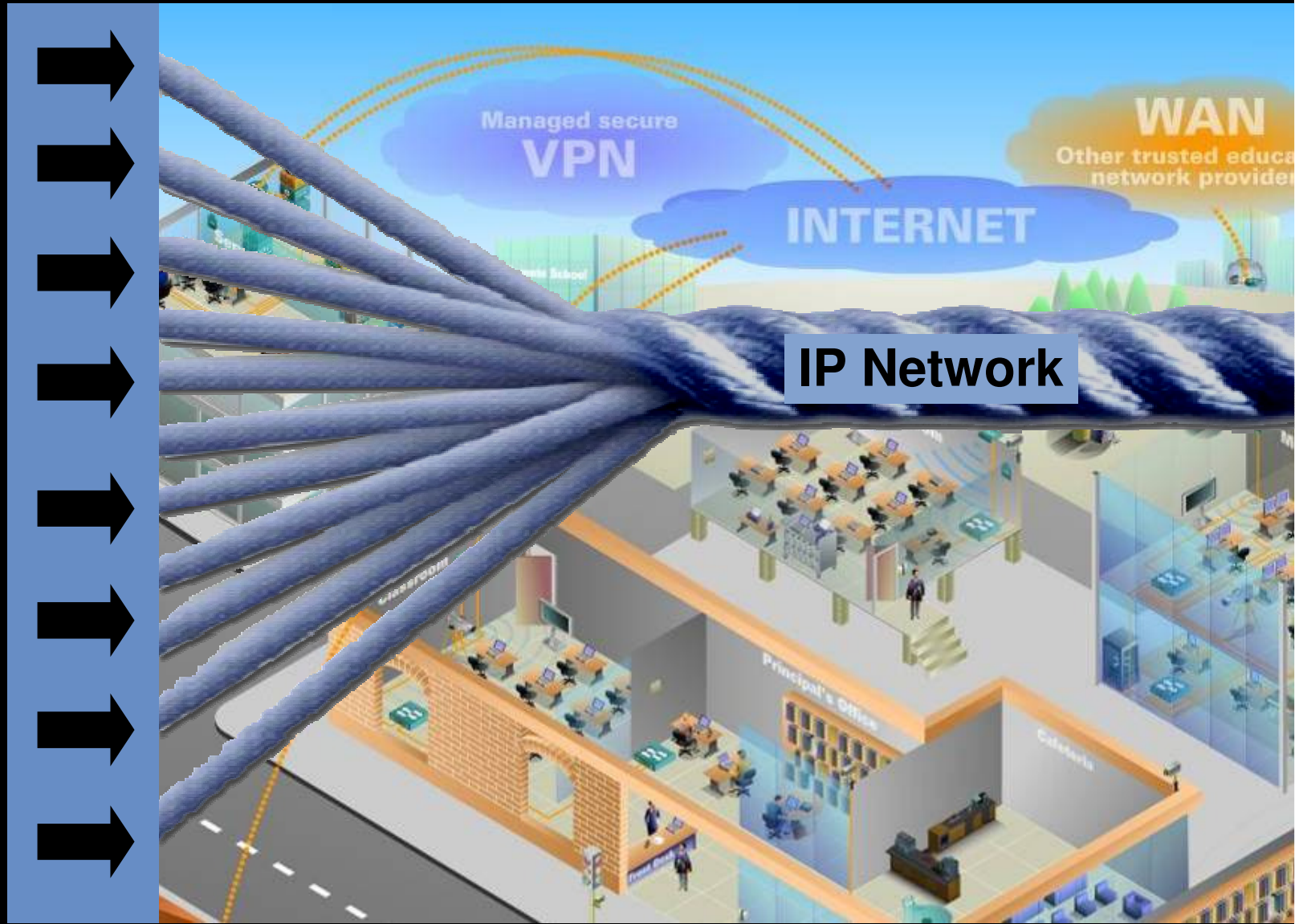
Step 2



Connect All Buildings

Connect All Buildings

- Data
- Voice
- Video Streaming
- Video Conferencing
- PA (Intercom)
- Video Monitoring
- Building Controls
- Clocks and Bells



Benefits of Connecting the Schools

- Provide wired and wireless secure access to important data by authorized users anytime, anywhere
- Reduced number of wiring runs, management systems and expert resources
- Elimination of or reduction in operating costs
- Flexibility for your network to evolve as student population expands or declines
- Ability to offer new enhanced services



Step 3



Develop Staff and Teacher Proficiency

Empower Teachers with Technology

- Applications
 - Curriculum portal/software
 - Grade books
 - Student Information Systems
- Devices
 - Interactive white boards
 - PDA's
 - Touch screens
 - Laptops and/or tablet PCs
 - IP phones with communication applications
 - Projectors
 - Video conferencing/on demand
- Robust professional development



Benefits of Empowering Teachers

- Allows teachers to master technologies first, and then assimilate them into the classroom
- Integrated systems and curriculum, offer 24-hour access to data, opportunity for collaboration and best practice sharing
- Automates time consuming processes for more time with students
- Provides tools for teachers to create engaging learning environments



Step 4



Create Student Learning Environments

Student Centered Productivity

- 21st Century Skills
- Fluent users of Word Processing, Excel, PPT, Digital Integration
- Internet based Research
- Collaboration
- Anywhere, Anytime, *Anyway* Learning



Expanding the Classroom

- Video Conferencing
- Video on Demand Courses
- Video Streaming
- Digital Production
- Podcasting
- Data and Voice Conferencing

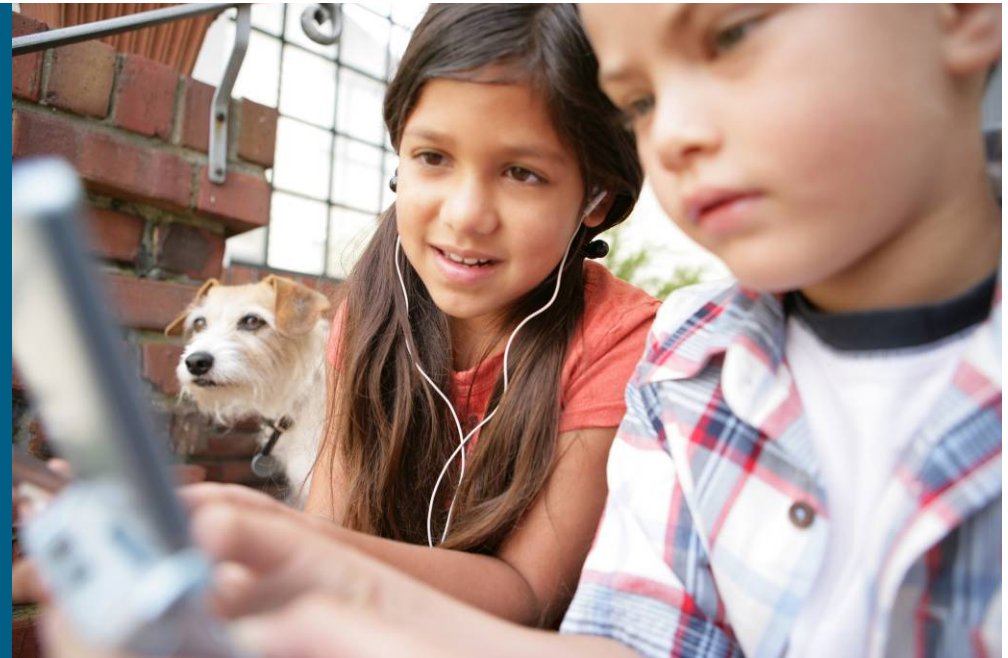


Expanding the Resources

- Centralized Resources:
“Digital MarketPlace” Model
 - Amazon + iTunes
 - Smaller, Relational Portions of Specific Content
 - Media Rich
 - Rating and Ranking
 - Curriculum Builder
 - LMS Integration
- Publisher/Content –
Direct Correlation to National/State Standards and Testing



Step 5



Build Learning Community

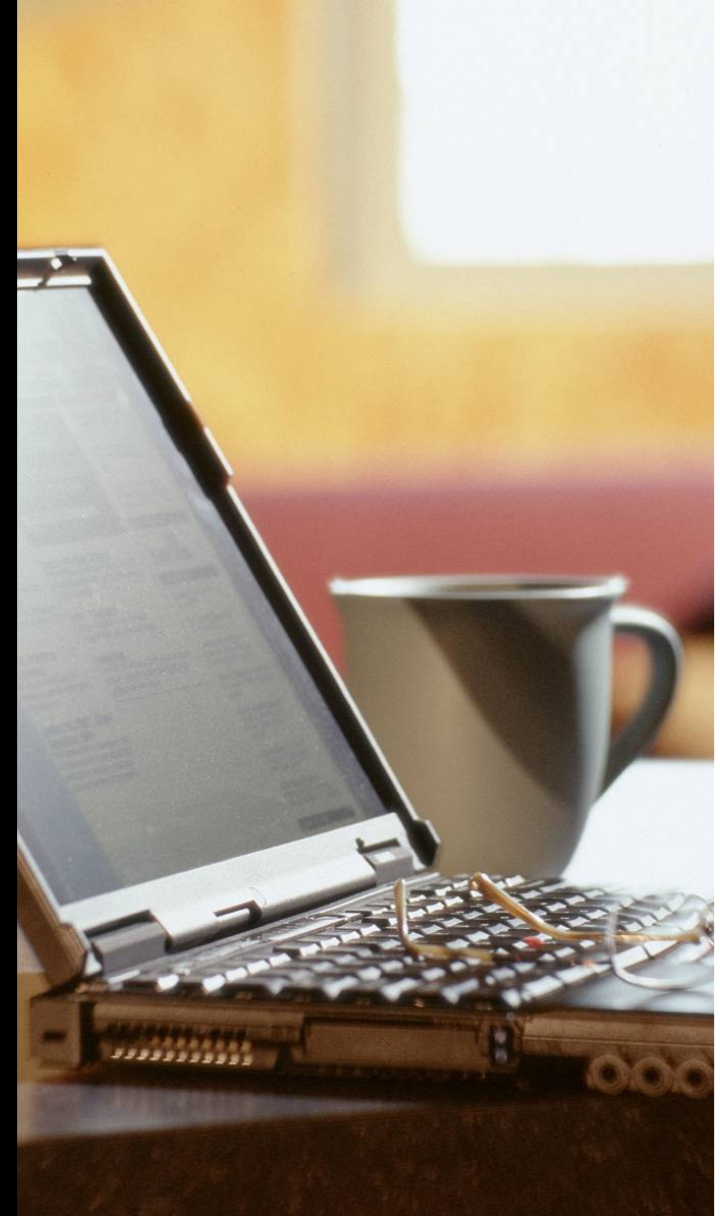
Create 21st Century Learning Environments

- Live or on-demand
- Distance learning programs
- Simulations and virtual environments
- Collaboration and content creation
- Video/Rich Media
- Assessment and prescriptive learning



Extend to the Home

- On-Line Services
 - Access to Curricular Material
 - Access to Homework Files
 - Access to Attendance and Grades
 - Access to School/Home Financial Info
 - Bus Passes
 - Text books, Library Books
 - Fees & payment
 - Directories and Email
 - Access to meetings, conference calls
 - Collaborative Community Input



The Benefits

- Creates individualized education model for both students and teachers
- Expands breadth and depth of curriculum and professional development offerings
- Enables effective learning at any hour of the day or night, from anyplace, on or off school grounds
- Promotes lifelong learning



Summary : Five Steps To Transformation

Step 1	Create a compelling vision of 21st century learning
Step 2	Connect all buildings and provide secure internal & external access to critical information
Step 3	Develop staff & teacher proficiency and enhance productivity
Step 4	Create student learning environments for network-based instruction and technology based opportunity
Step 5	Build a Community for student-centered learning and collaboration

Develop the Education Human Network

- Follow Me Content - content follows the users, processes, and activities
- People subscribe to people - social connections and expert location
- Immersive Interactions – presence, geospatial location, semantics/context

Human Network across the Education Community

