



Technological Leadership in the Digital Age

Tatiana Nanaieva

Corporate & Government Affairs Director in U/CIS

Tatiana.Nanaieva@intel.com

Robert Fogel

Principal Education Architect for Intel

robert.fogel@intel.com

Education Transformation is a Global Phenomenon



USA



SPAIN



ROMANIA



RUSSIA



PORTUGAL



MACEDONIA



TURKEY



MALAYSIA



VENEZUELA



ARGENTINA



BRAZIL



INDIA



AUSTRALIA

Student Outcomes

21st Century Workforce

Global Citizens

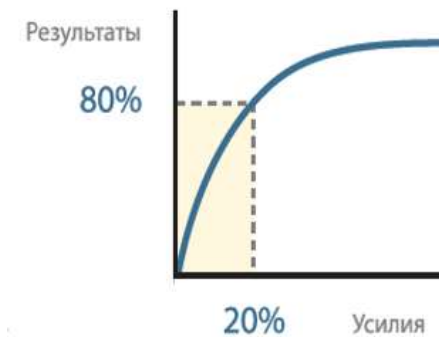
Student Potential

**Why
Education
Transformation
?**

"Job losses and earnings losses have been concentrated in low-skilled, low-income households. ...Many workers remain trapped in low-paid, insecure jobs with little social protection...Young people continue to face record unemployment levels."

— OECD

Четыре императива великих лидеров





LEARNING is social



*Other names and brands may be claimed as the property of others.



M

A
S
S
I
V
E



N
E
P

O
O

O
N
L
I
N
E

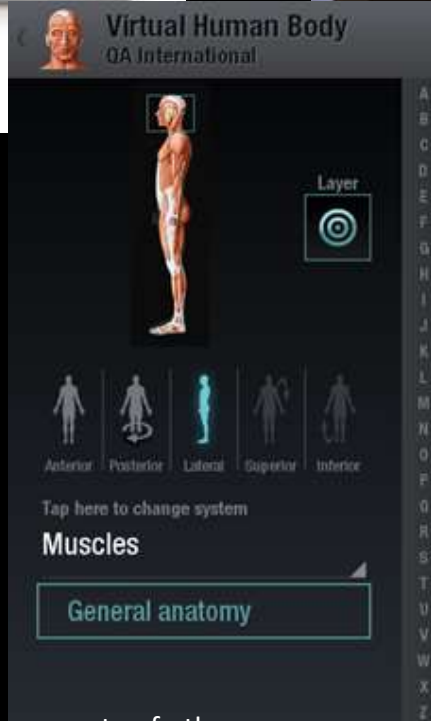
E
S
R
O
C



eLabs or vLabs

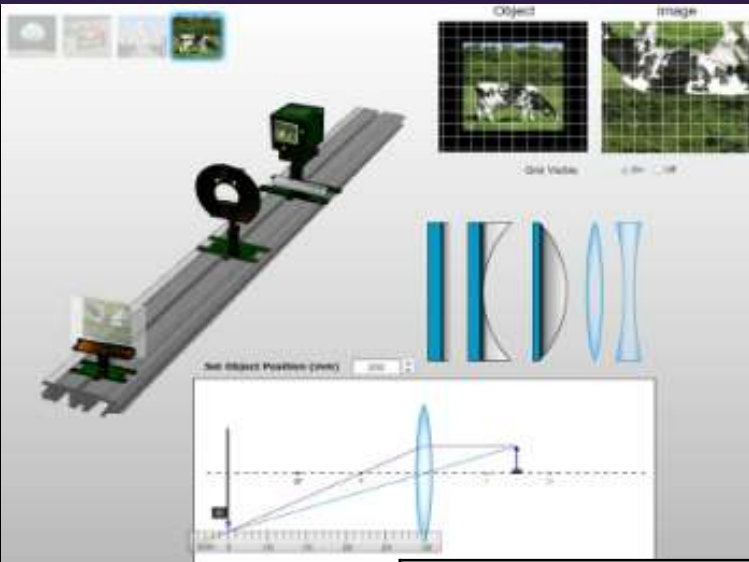


safe, affordable
new way of
teaching
practical skills
of science



*Other names and brands may be claimed as the property of others.

VIRTUAL PHYSICS LABS



- Remote, sharable physical apparatus
- Available 365/24/7 online

	Simple Pendulum	Simple Harmonic Motion	Tangent Galvanometer
	Kinematics	Buoyancy	Electromagnetic Induction
	Force Table	Calorimetry	Faraday's Law
	Dynamics Track	Ideal Gas Law	Lenses and Mirrors
	Circular Motion	Sound Waves	Refraction & Reflection
	Work and Energy	Electrostatics	Slit Diffraction
	Momentum	Electric Field Mapping	Half-Life
	Torque	DC Circuits	



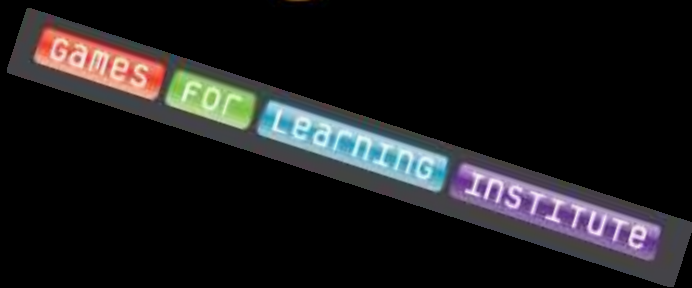
LEARNING SCIENCES + FUN



=



Game-Based Learning



*Other names and brands may be claimed as the property of others.

What is Fun?



Surprise



Discovery



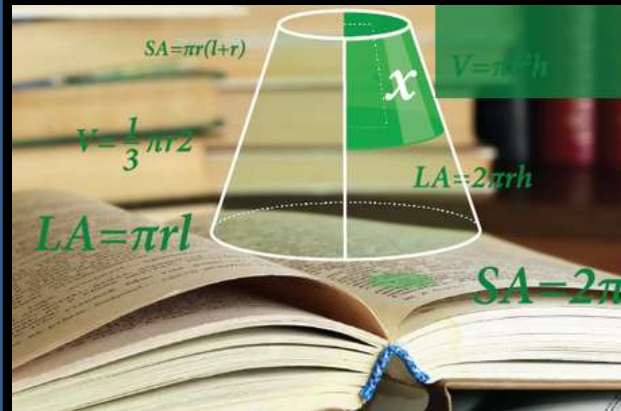
Role Play





Augmented Reality (AR)

*merging the digital world
with the physical world*



*Other names and brands may be claimed as the property of others.

Virtual Reality (VR)



Sony Morpheus VR headset



- Low Latency
- 360° Head Tracking
- Stereoscopic 3-D View
- Real immersion
- Ultra Wide Field of View
- Relatively low cost

Sony targeting PS4

Oculus cross platform

3-D Printers Reshaping “Reality”



- Turn theory into practice
- Validate and Test
- Simplify complexity
- Hands-on
- Math, Science, Engineering
- Historical artifacts



BEST
PRACTICE

High Quality Apps & Digital Curriculum Content

- Immersive & Interactive
- Multisensory & Personalized
- Relevant to Culture & Language
- Align to Curriculum Standards
- Online and Offline



Media Camera



Classroom Management



Lab Camera



Intel Education Software





Teacher Preparedness
Digital Curriculum
Skills Assessments
Right Device

New Form Factors in Education



BEST
PRACTICE

Selecting the “Right” Device

- Appropriate to Age
- Appropriate to Usage
- 1:1 or Mobile Lab
- Internet Independence
- Content Creation
- Manageability
- Performance
- Security
- TCO



Administrators



Teachers



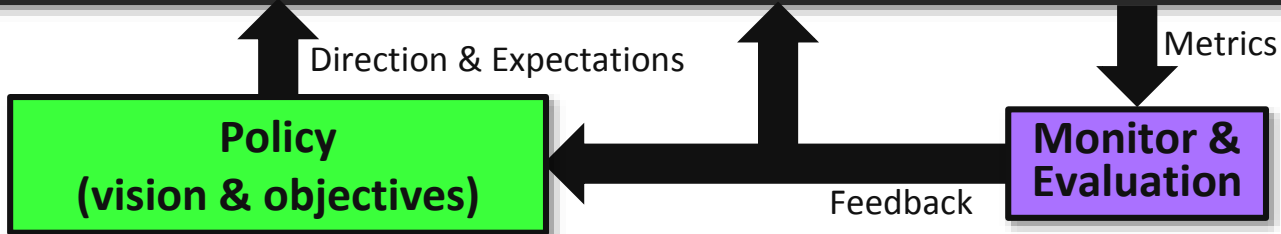
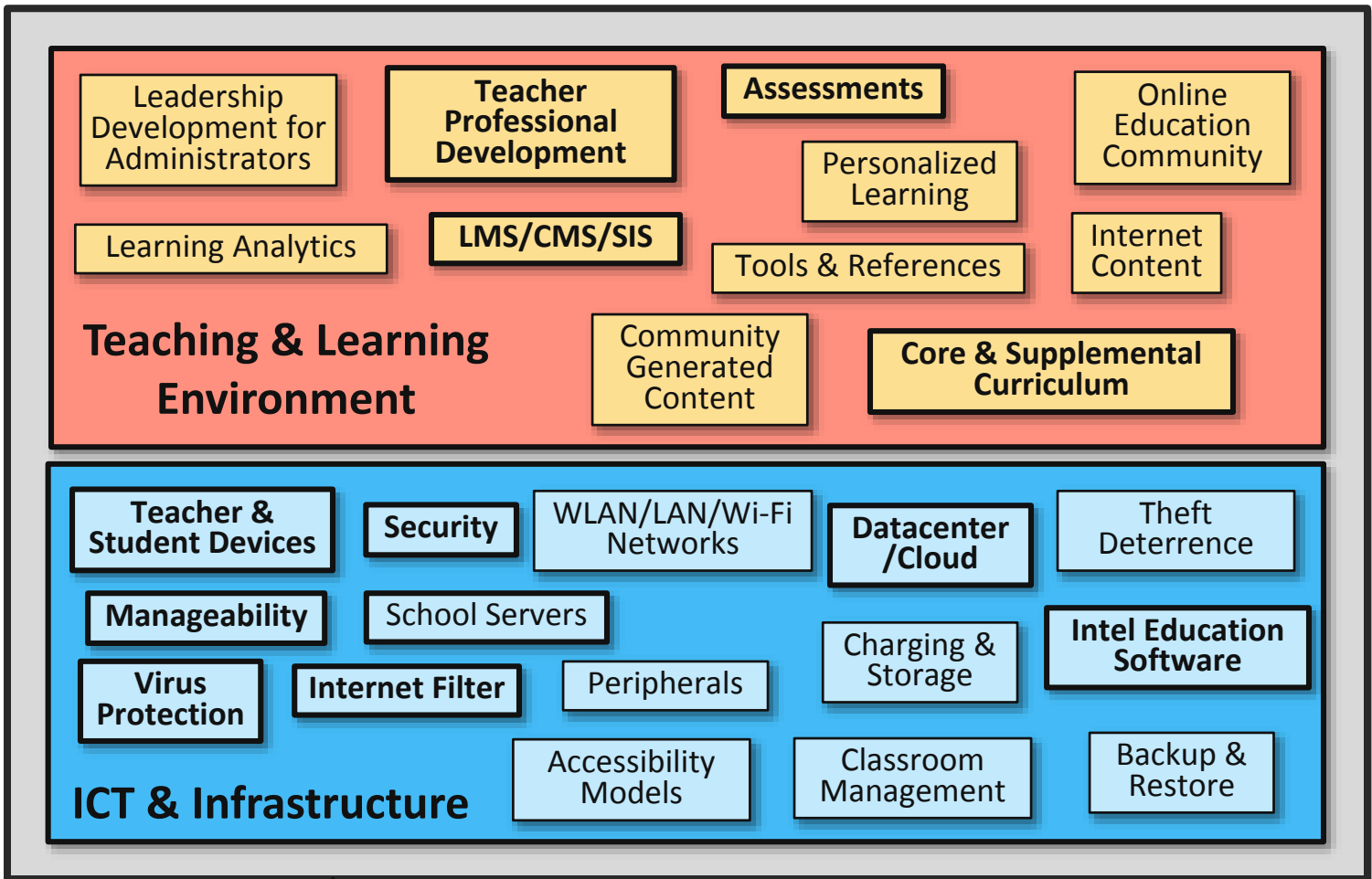
Students



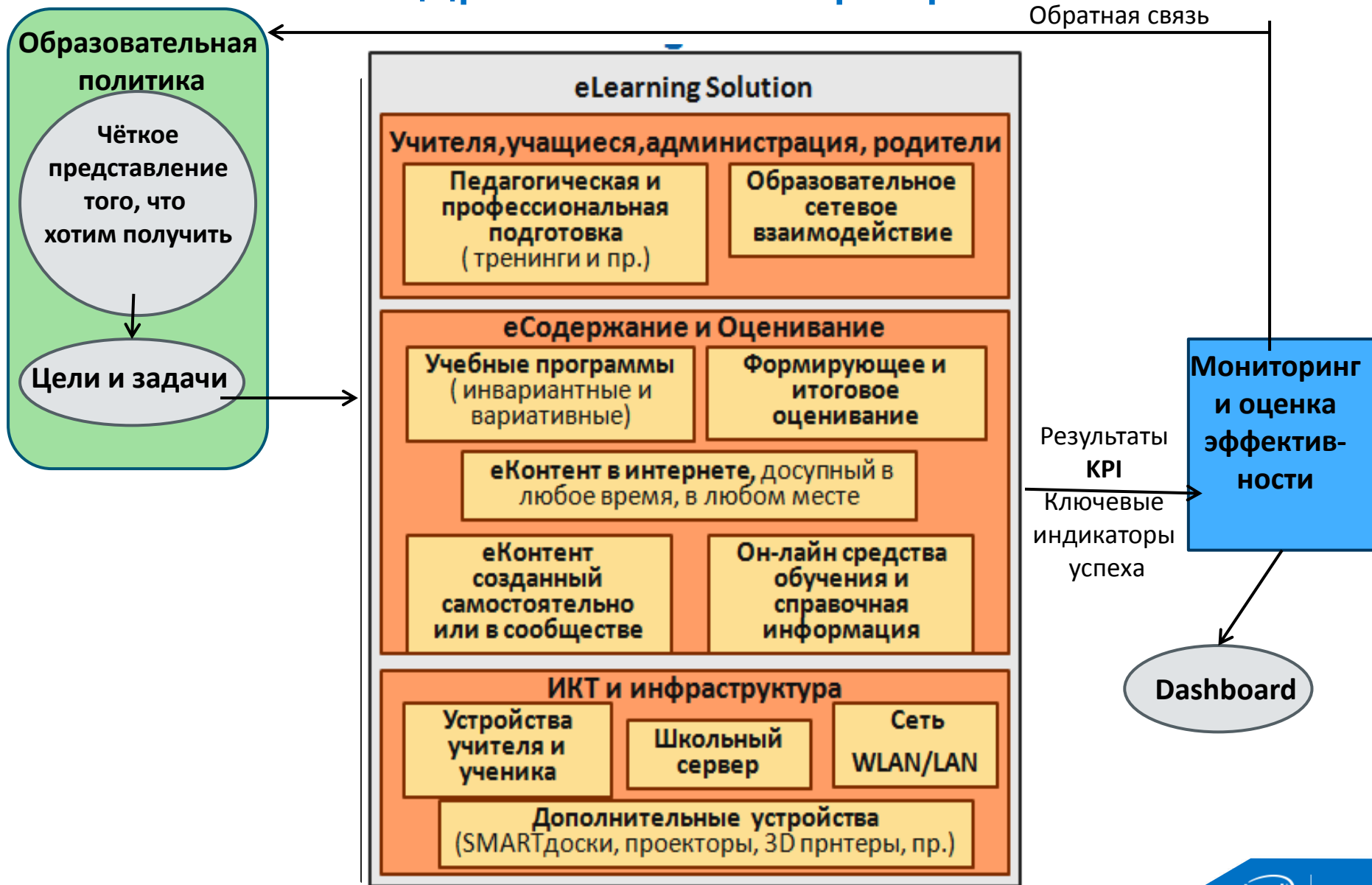
Parents



Education Technology Solution



Системный подход к внедрению ИКТ программ



Solution Framework

Maximize education value and outcomes while mitigating risks and lowering costs and time to implementation

BEST
PRACTICE

Assessing 21st Century Skills

Academics are not the only measure

- Collaborative Problem Solving (CPS)
- Peer and Self-Assessment for Students
- Scoring and Interpreting Student Performance
- Link to Teaching





BEST
PRACTICE

Preparing Teachers

Teacher readiness, capacity building, change management

- On-going Teacher Professional Development
- Leadership Development
- Teacher Community
- Mentoring
- Sharing



Intel
Engage



Intel
Teach

Technology is a strategic tool for empowering teachers and students

ANYtime / ANYwhere
learning

DEEPER and RICHER
learning experiences

ENGAGE and MOTIVATE
students

SPARK intrinsic desire to learn

**Technology enables
new and innovative
usage models in
education**



ICT in Education

UNESCO Bangkok

United Nations
Educational, Scientific and
Cultural Organization



UNESCO » Bangkok Office » Education » ICT in Education » Past Projects » Policy » Central Asia Symposium on ICT in Education (CASIE): Innovative ICT Practices on Lifelong Learning

Follow Us: [YouTube](#) [f](#) [t](#) [RSS](#)

ICT in Education

About

Current Projects

Past Projects

► Policy

Higher Education
Training of Teachers
Teaching and Learning
Non-formal Education
Monitoring and Measuring
Change
Capacity Building
Innovative Practices
Research and Knowledge-
Sharing

News & Events

Resources



At the International Symposium on ICT in Education held last year (13-14 September 2011, Mongolia), Central Asian countries reported on their policies, promising practices and lessons learnt in the use of ICT in education. It was evidenced in this symposium that Central Asian countries shared common issues and would need to be provided a regional platform where government officials and experts can share and discuss practices in using ICT in education, related policy options and potential solutions to the common challenges faced by their respective education systems. To this end, UNESCO Bangkok (Asia-Pacific Regional Bureau for Education) will be holding the **Central Asia Symposium on ICT in Education (CASIE)** in Almaty, Republic of Kazakhstan on **28-30 January 2013**, with financial support from Government of Japan and in collaboration



IMPORTANT RESOURCES

Outcome document (pdf, 3.1mb)
Programme (pdf, 530kb)
Administrative information note (pdf, 250kb)
Concept note (pdf, 150kb)

GUIDELINES

Country report guidelines (pdf, 170kb)
Guidelines for plenary speakers (pdf, 490kb)
Guidelines for panelists (pdf, 480kb)
Guide for chairs (plenary) - (pdf, 340kb)
Guide for chairs (panel) - (pdf, 420kb)

INFORMATION IN RUSSIAN

Outcome document (pdf, 3.6mb)
Programme (pdf, 530kb)
Administrative information note

Intel Corporation

The World's Largest Semiconductor Manufacturer

- Leading Manufacturer of Computer, Networking & Communications Products
- Founded by Gordon Moore and Robert Noyce in 1968
- Headquartered in Santa Clara, California
- \$52.7B in Annual Revenues - 25+ Consecutive Years of Positive Net Income
- 170 Sites in 66 Countries
- Over 107,000 Employees – 84,600 technical roles, 10,200 Masters in Science, 5,400 PhDs, 4,000 MBAs
- Named one of the Top Ten Most Valuable Brands in the World by Interbrand
- Ranked #42 on Fortune's World's Most Admired Companies
- Largest Voluntary Purchaser of Green Power in the United States for 7 years in a row
- Invests \$100 Million Each Year in Education Across More than 100 Countries
- 4 Million Hours of Volunteer Service toward improving education over the past decade





Intel® Education

Empowering Youth. Transforming Communities.

150M Students Learning with Technology

13M Teachers Empowered with Professional Development

7M Students in Affiliated Science Competitions

4M Employee Volunteer Hours for Education

\$100M Annual Investment
to Improve Education in
100 Countries

INTEL Education Initiatives



Menu ▾

Find Content |

Search

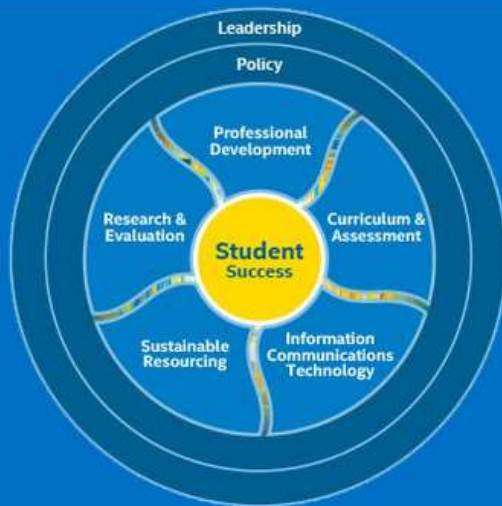


USA (English) 🌐

Sign In

Intel® Education

Tags: EDU Education



Inspiring Student Success

Intel® Education helps passionate education professionals transform education. In turn, education transforms their students into dreamers, doers, and the leaders of the future.

[Explore more ›](#)



Choose the Right Device for Learning

Intel® architecture offers fewer disruptions and a feature-rich educational experience for today's 21st century students.

[Learn more ›](#)



Join Our Community

Become part of the journey with 50,000 global educators transforming the K-12 classroom.

[Come say hello ›](#)



INTEL ISEF 2015



Search Student Science...



▶ Science News for Students

▶ Blogs and Resources

▶ Broadcom MASTERS

▶ Intel ISEF

For Attendees

FAQ

Finalist Home

▶ Winners and Alumni

▶ Sponsors

▶ Rules, Forms and Resources

▶ Fair Network

▶ Volunteers and Judges

▶ Intel STS



Find an affiliated fair

Intel ISEF is the world's largest international pre-college science competition with affiliated fairs around the globe.

About Intel ISEF

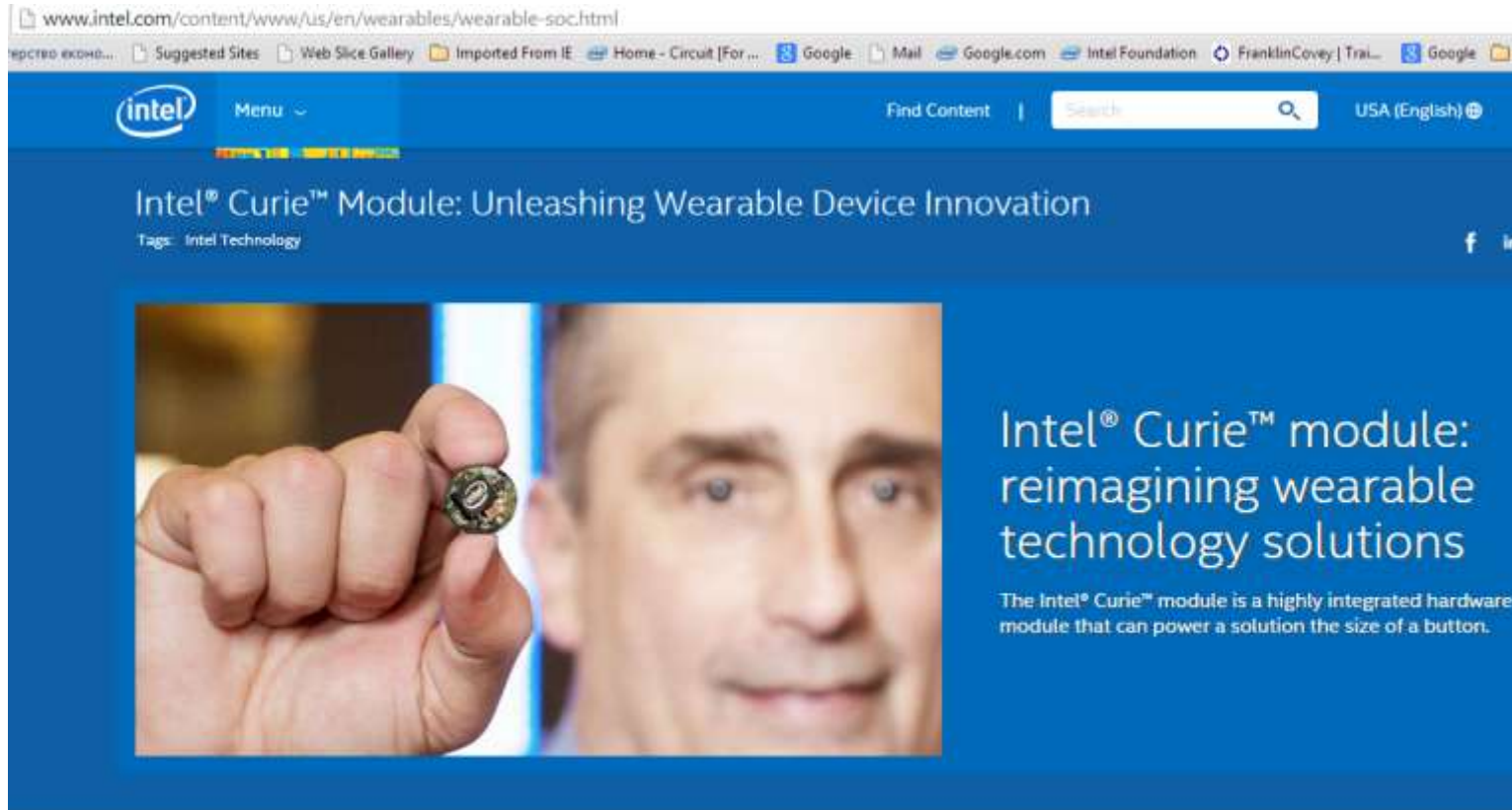


Upcoming Events

MAY 10, 2015

Intel International Science and Engineering Fair 2015

Intel for Programming in Education



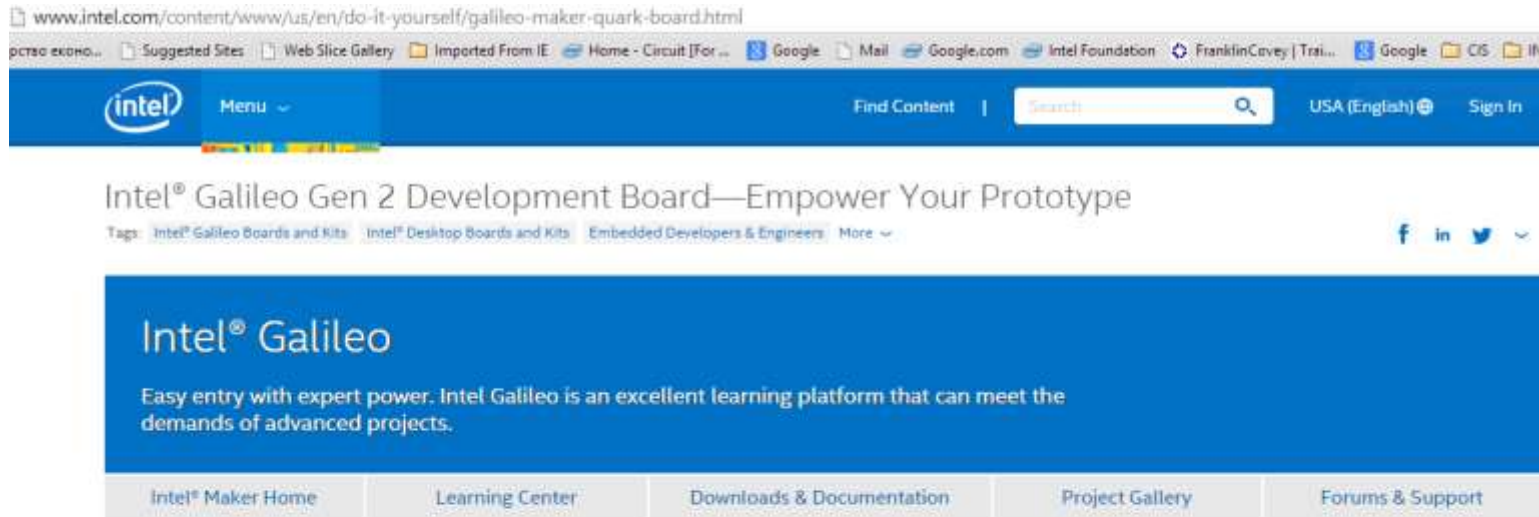
The screenshot shows a web browser window with the URL www.intel.com/content/www/us/en/wearables/wearable-soc.html. The page features the Intel logo, a menu, and a search bar. The main content area is titled "Intel® Curie™ Module: Unleashing Wearable Device Innovation" with the tag "Intel Technology". A large image shows a hand holding a small, circular Intel Curie module. To the right of the image, the text reads: "Intel® Curie™ module: reimagining wearable technology solutions". Below this, a sub-headline states: "The Intel® Curie™ module is a highly integrated hardware module that can power a solution the size of a button."

Unleashing Wearable Device Innovation

The Intel® Curie™ module is the first platform of its kind from Intel—a complete low-power solution designed for companies interested in developing wearable technology solutions. The Intel® Curie™ module packs a robust set of features into its tiny size that are ideal for "always-on" applications such as social media, sports, and fitness activities. This can enable efficient and intelligent wearable solutions for a broad range of form factors—including rings, bags, bracelets, pendants, fitness trackers, even buttons.

<http://www.intel.com/content/www/us/en/wearables/wearable-soc.html>

Intel for Programming in Education



The screenshot shows the Intel website page for the Galileo Gen 2 Development Board. The URL in the browser is www.intel.com/content/www/us/en/do-it-yourself/galileo-maker-quark-board.html. The page features the Intel logo, a navigation menu, and a search bar. The main heading is "Intel® Galileo Gen 2 Development Board—Empower Your Prototype". Below the heading, there are tags for "Intel® Galileo Boards and Kits", "Intel® Desktop Boards and Kits", and "Embedded Developers & Engineers". A blue banner contains the text "Intel® Galileo" and "Easy entry with expert power. Intel Galileo is an excellent learning platform that can meet the demands of advanced projects." At the bottom of the banner, there are five navigation buttons: "Intel® Maker Home", "Learning Center", "Downloads & Documentation", "Project Gallery", and "Forums & Support".

From student to expert

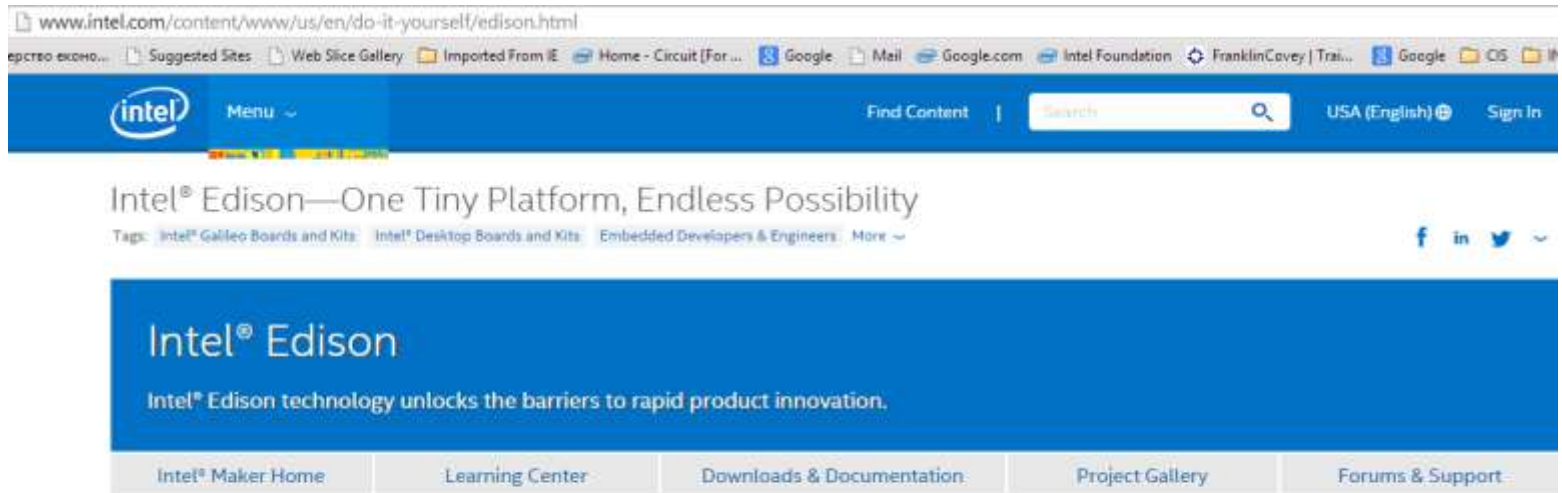
The Intel® Galileo Gen 2 board is the first in a family of Arduino*-certified development and prototyping boards based on Intel® architecture and specifically designed for makers, students, educators, and DIY electronics enthusiasts.

Providing users with a fully open source hardware and software development environment, the Intel Galileo Gen 2 board complements and extends the Arduino line of products to deliver more advanced compute functionality to those already familiar with Arduino prototyping tools. The Intel Galileo Gen 2 development board is designed to be hardware-, software-, and pin-compatible with a wide range of Arduino Uno* R3 shields and additionally allows users to incorporate Linux* firmware calls in their Arduino sketch programming.



<http://www.intel.com/content/www/us/en/do-it-yourself/galileo-maker-quark-board.html>

Intel for Programming in Education



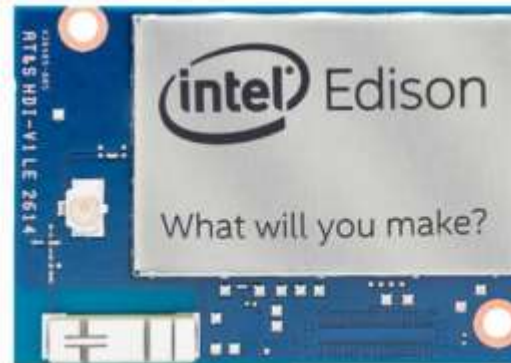
The screenshot shows the Intel Edison website. The browser address bar displays www.intel.com/content/www/us/en/do-it-yourself/edison.html. The page features the Intel logo, a navigation menu, and a search bar. The main heading is "Intel® Edison—One Tiny Platform, Endless Possibility". Below this, there are social media icons for Facebook, LinkedIn, and Twitter. A blue banner contains the text "Intel® Edison" and "Intel® Edison technology unlocks the barriers to rapid product innovation." At the bottom of the banner, there are five navigation links: "Intel® Maker Home", "Learning Center", "Downloads & Documentation", "Project Gallery", and "Forums & Support".

Prototype quickly and get to market faster.

The Intel® Edison platform is a solution designed to lower the barriers to entry for quick prototyping and productizing the connected computing devices driving the next industrial revolution.

This wave of connected devices will be a diversified collection of products invented for specific consumers and consumer needs.

Intel® Edison technology was designed specifically for the creators of these devices—emerging entrepreneurs eager to invent the future. It combines a small, powerful, adaptable hardware platform and partner-enabled ecosystem with extended software compatibility and supportive online environment.



<http://www.intel.com/content/www/us/en/do-it-yourself/edison.html>

“Makers”



**makers
FACTORY** 
Your Santa Cruz resource for 3D printing,
animation, modeling, and robotics

Maker Faire

 **MakerBot**

**INVENTED
HERE**

 **THE CENTER FOR
BITS AND ATOMS**
Massachusetts Institute of Technology



*Other names and brands may be claimed as the property of others.

12TH ANNUAL LONDON | DECEMBER 2015

EDUCATION SUMMIT

GAMING AND EDUCATION



SUPPORTED BY
MAYOR OF LONDON



Bringing together national and international thought leaders in education, gaming and technology to explore the impact of gaming on the future of

Review the
2014

<https://summit.intel.co.uk>



Menu ▾

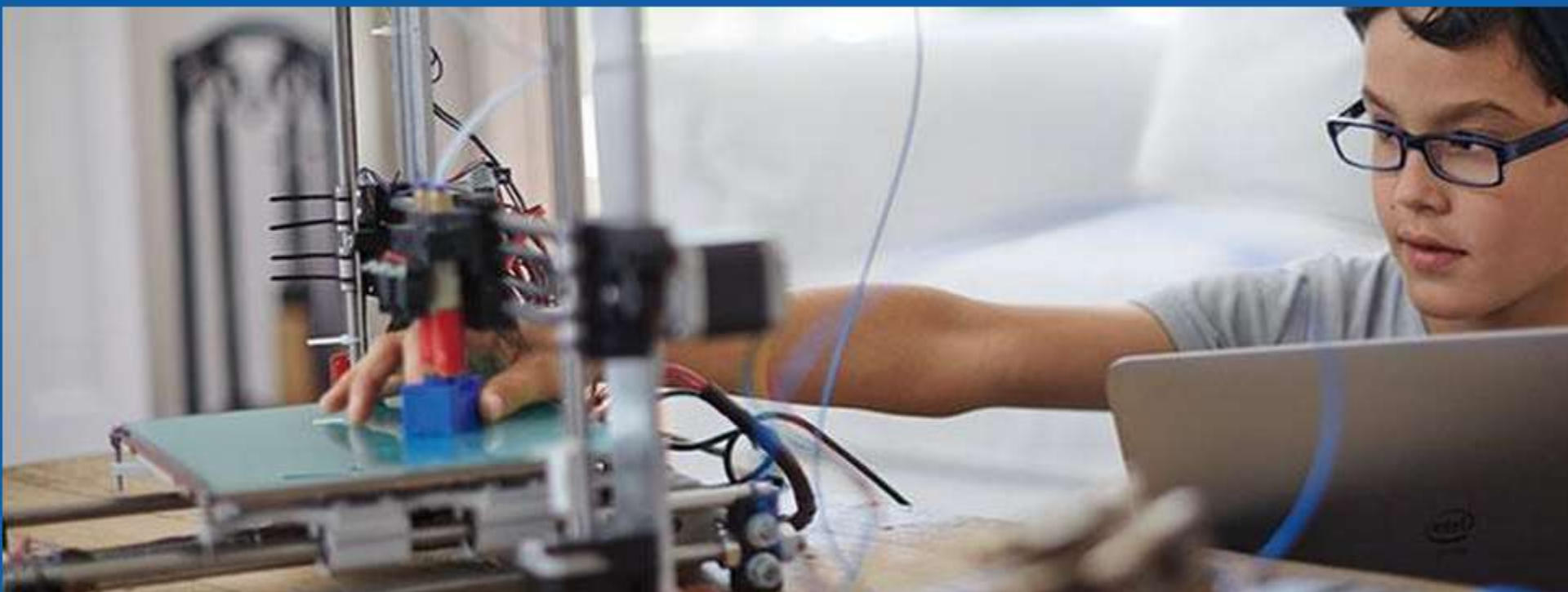
Find Content |

Search



Intel® Education

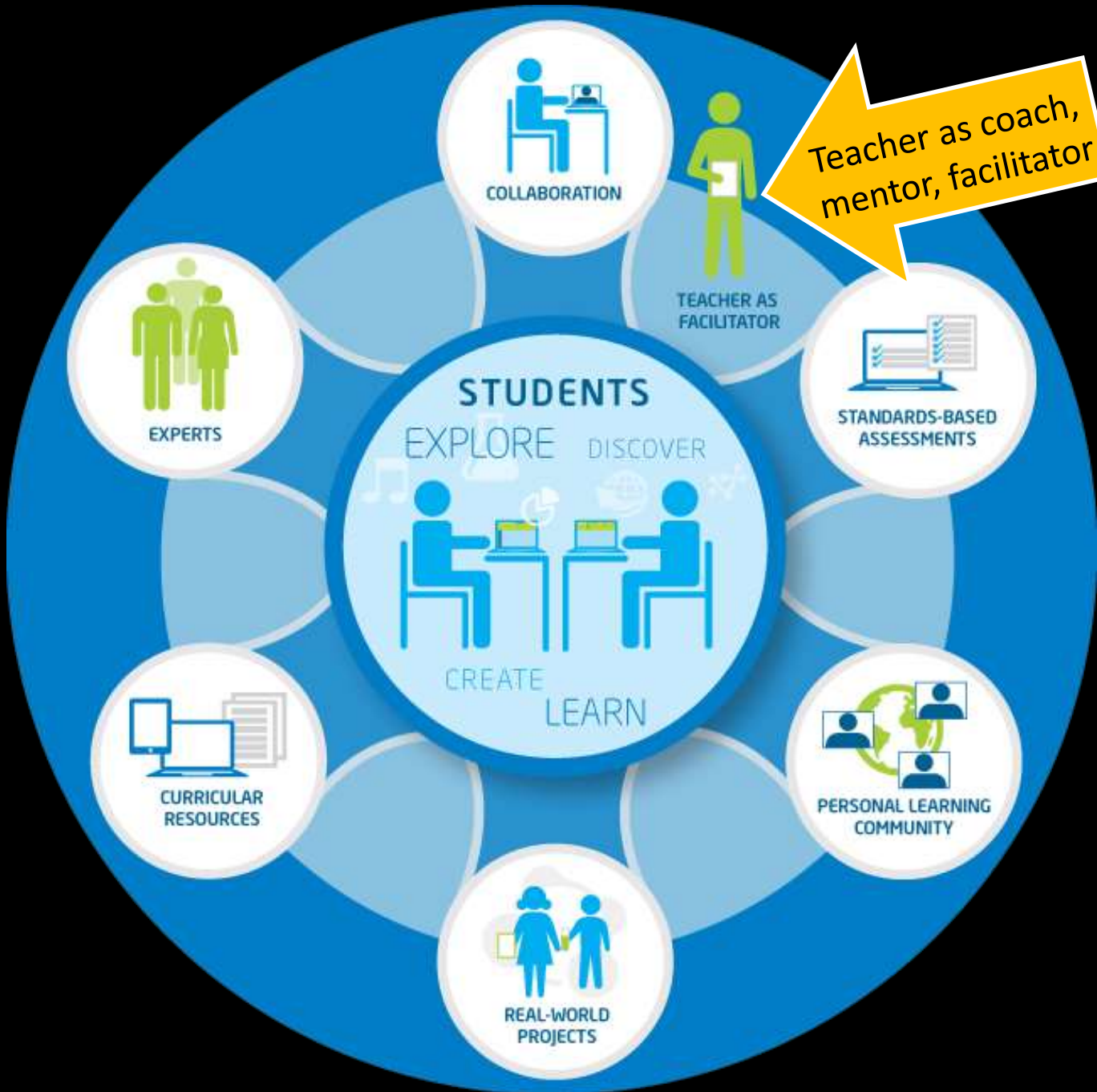
Tags: EDU Education



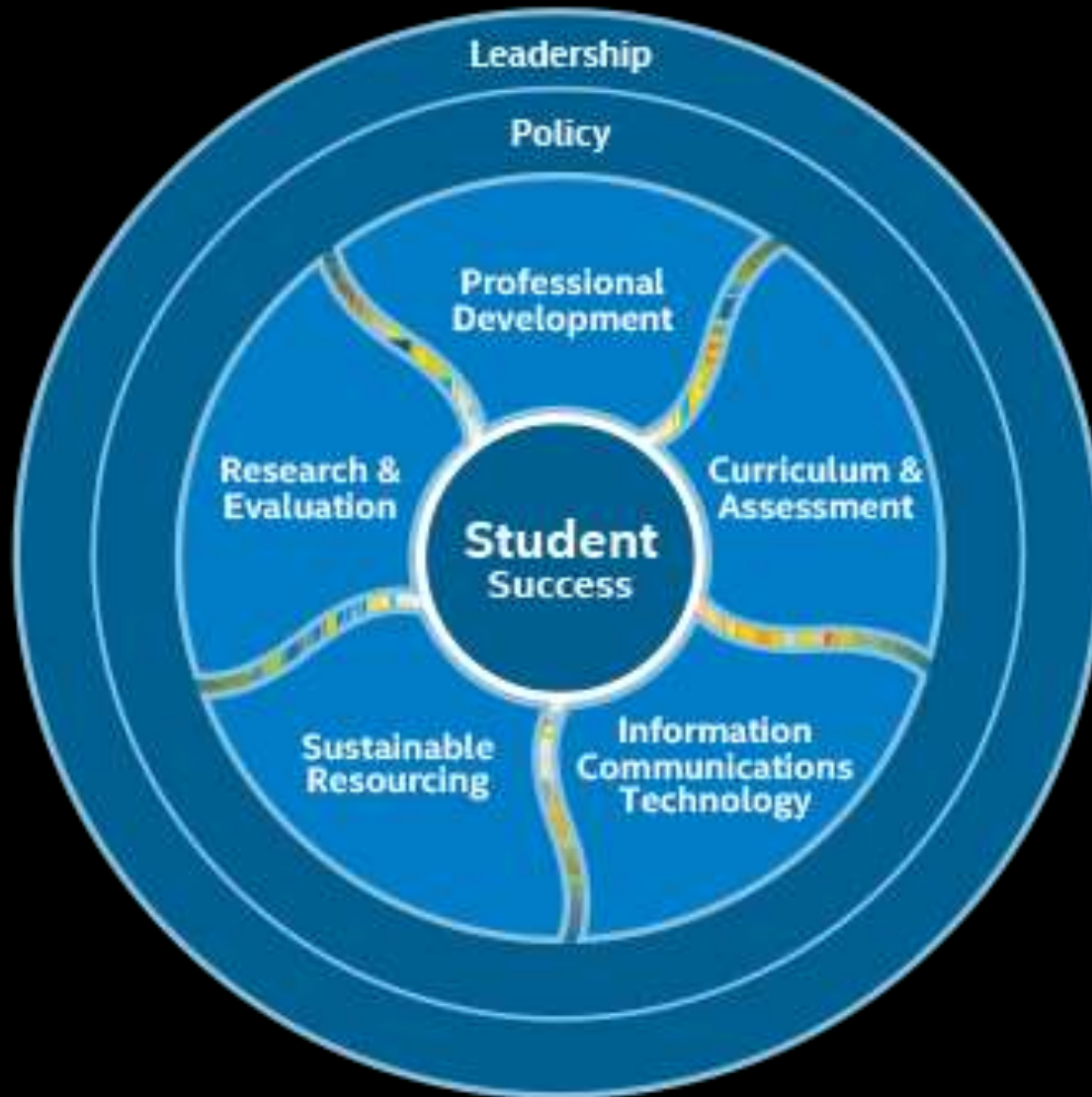
Transforming the Classroom, Inspiring Student Success

We have a proven holistic model for transforming education for today's learners. Start with your vision and use our practical insights to help lead your students to success.

[Explore the model >](#)

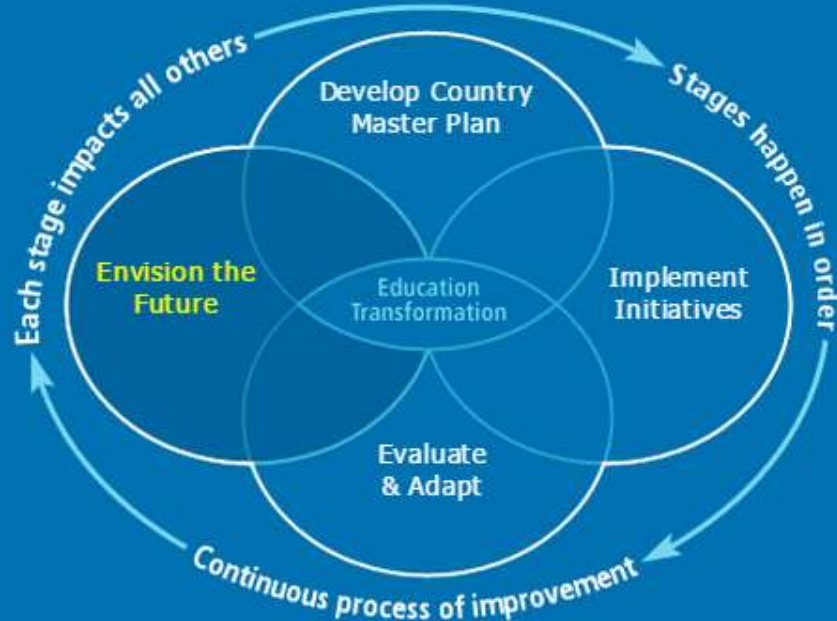


Education Transformation



Education

Policy Development Process



Comprehensive. Flexible. Extensible.

Intel seeks to support ICT policy and education transformation by providing government agencies with an extensive, flexible, and extensible set of policy development tools.

[Learn More](#)

Envision the Future

- Create long term shared vision
- Define government & stakeholders' mission
- Analyze the socio-ecosystem

PROFESSIONAL DEVELOPMENT – INTEL® TEACH



- Empower teachers to successfully integrate technology in the classroom
- Develop 21st century skills in students
- Online courses and resources



**TRAINED 13M TEACHERS,
75 COUNTRIES**

Intel® Teach Program Portfolio

Intel® Teach provides flexibility through delivery options (face-to-face, online, or hybrid courses) and course levels (beginning through advanced experience). All courses enable teachers to introduce, expand, and support 21st century learning in any subject using their existing curricula.

Intel Teach Elements Courses

Professional Development for Anyone, Anywhere, Anytime in 24 Languages. A series of high interest, visually compelling short online or CD-based courses that provide deep exploration of current learning concepts.

K-12 CLASSROOM TEACHERS (ALL SUBJECTS)

Project-Based Approaches

Helps teachers improve their understanding and application of Project-Based Approaches to engage students.

Assessment in 21st Century Classrooms

Participants learn to plan, develop, and manage student-centered assessment to benefit students' learning.

Collaboration in the Digital Classroom

Helps teachers develop students' 21st century skills, deepen content understanding, and prepare for the globally connected world.

Thinking Critically with Data

Participants learn to help students develop specific skills necessary for analyzing, interpreting, and displaying different kinds of data.

SCHOOL LEADERS

Educational Leadership in the 21st Century

Educators explore and discuss school leadership in students' technological world and develop strategies to better support teachers.

Intel Teach Courses

A Network of Sustained Support through a Train-the Trainer Model, used in more than 60 Countries since Inception in 1999.

K-12 CLASSROOM TEACHERS (ALL SUBJECTS)

Getting Started Course

Introduction to classroom software productivity tools and student-centered approaches.

Essentials Course

Develop units that integrate technology into existing classroom curricula to promote student-centered learning.

Essentials Online Course

Develop units that integrate technology into existing classroom curricula to promote student-centered learning in an online course.

SCHOOL LEADERS

Leadership Forum

Network with other leaders to focus on leadership in promoting, supporting, and implementing effective technology integration in schools.

Intel Education Resources

Global Online Community

Teachers Engage is a personal learning network for anyone interested in the core concepts of Intel Teach Program courses: instructional design, project-based approaches, effective use of technology, assessment of 21st century skills, and open-ended questioning.

Thinking with Technology Course

Develop project-based units using online thinking tools to enhance students' higher-order thinking skills.

Advanced Online Course

Collaborate with other teachers to build communities to advance integration of technology and 21st century learning.

ICT TEACHERS

Skills for Success

Training on a student curriculum that develops digital literacy, problem solving, critical thinking, and collaboration skills.

Free Teaching Tools and Resources

The Intel Education Web site offers robust, practical, easily integrated content and resources including exemplary lesson plans, assessment strategies, technology-enriched project ideas, and higher-order thinking tools, in more than 18 languages. Find out more at www.intel.com/teachers.

Intel Teach Elements



Intel Engage

Intel Teach

Preparing Teachers & Administrators



Digital Curriculum Content

Assessing 21st Century Skills

Selecting the "Right" Device



ATCS
21
 ASSESSMENT & TEACHING OF 21ST CENTURY SKILLS
 THE UNIVERSITY OF MELBOURNE
 CISCO | INTEL | MICROSOFT

Leadership in the XXI century



Intel® Teach Elements: Educational Leadership in the 21st Century

Module 1: Technology Leadership

▶ ACTION NOTEBOOK ▶ RESOURCES ▶ GLOSSARY ▶ HELP ▶ ABOUT

Welcome, A1: Welcome to Module 1

Module 1: Technology Leadership

School leadership is a critical component of 21st century teaching and learning. Innovative teachers require supportive leaders who understand that technology integrated into well-designed, standards-based instruction improves student achievement. In this module, you consider your own strengths and challenges as a leader. You also explore strategies for fostering a learning environment that leverages technology to help develop students' 21st century skills.

1. Roll over **each lesson title** to read the lesson objective.
2. Click **Next** to continue to **Lesson 1**.



Lesson 1: Visionary Leadership

Lesson 2: Professional Practice

Lesson 3: Digital Age Teaching

Lesson 4: Module Review

MODULE 1 : LESSON 0 out of 4





Lesson 1: Visionary Leadership, A3: The NETS-A Standards

Extension Topic

Essential Conditions

The ISTE Essential Conditions serve as a scaffold to assist leaders in effectively leveraging technology to improve teaching and learning. They offer a broad classification of criteria for implementing NETS-A and establishing goals and outcomes for technology in schools.

1. Roll over each **word** to learn more about the Essential Conditions.
2. Open **Essential Conditions** to save a copy to your Course Folder.
3. Open **Essential Conditions Progress** and save a copy to your Course Folder. Take a few moments to rate your progress on the Essential Conditions.
4. When you are finished, click **Next** to continue to **Lesson 2**



Essential Conditions



Essential Conditions Progress



ISTE National Educational Technology Standards (NETS•A) and Performance Indicators for Administrators www.iste.org

1. Visionary Leadership/ Стратегическое лидерство

- a. inspire and facilitate*
- b. engage in an ongoing process*
- c. advocate for policies, programs, and funding to support implementation of a technology-infused vision and strategic plan*

2. Digital Age Learning Culture/ Образовательная культура цифрового мира

- a. ensure instructional innovation focused on continuous improvement of digital-age learning*
- b. model and promote the frequent and effective use of technology for learning*
- c. provide St-centered environments equipped with technology and learning resources to meet the individual, diverse needs of all learners (1:1 eLearning)*
- d. ensure effective practice in the study of technology and its infusion across the curriculum*
- e. promote and participate in local, national, and global learning communities that stimulate innovation, creativity, and digital-age collaboration*

3. Excellence in Professional Practice/ Успешные педагогические практики

- a. allocate time, resources, and access to ensure ongoing professional growth in technology fluency and integration*
- b. facilitate and participate in learning communities that stimulate, nurture, and support administrators, faculty, and staff in the study and use of technology*

ISTE National Educational Technology Standards (NETS•A) and Performance Indicators for Administrators www.iste.org

4. Systemic Improvement/ Системный прогресс

- a. lead purposeful change to maximize the achievement of learning goals through the appropriate use of technology and media-rich resources*
- b. collaborate to establish metrics, collect and analyze data, interpret results, and share findings to improve staff performance and student learning*
- c. recruit and retain highly competent personnel who use technology creatively and proficiently to advance academic and operational goals*
- d. establish and leverage strategic partnerships to support systemic improvement*
- e. establish and maintain a robust infrastructure for technology including integrated, interoperable technology systems to support management, operations, teaching, and learning*

5. Digital Citizenship/ Цифровое гражданство

- a. ensure equitable access to appropriate digital tools and resources to meet the needs of all learners*
- b. promote, model, and establish policies for safe, legal, and ethical use of digital information and technology*
- c. promote and model responsible social interactions related to the use of technology and information*
- d. model and facilitate the development of a shared cultural understanding and involvement in global issues through the use of contemporary communication and collaboration tools*



Technology for Professional Development

Gloria shared her professional development ideas with Frank to help her teachers meet their goals. Now, she is interested in hearing his suggestions. Review Gloria's ideas and then select Frank's suggestion that you think corresponds best to each idea.

1. Review the chart to see Gloria's ideas for meeting each goal.
2. Drag **Frank's suggestion** to its corresponding idea to show other ideas to support each goal and **Submit**.
3. When you are finished, click **Next** to continue.



Goals	Gloria's Ideas	Frank's Suggestions
Use technology tools for planning with others, such as collaborative documents or wikis.	Send some teachers to a conference or district workshop.	
Have all teachers participate in a virtual conference, webinar, or online course to develop their own technology skills.	Provide a list of tools and links to the tools for teachers.	
Use videoconference technology to get ideas from teachers at another school about their teaching methods.	Organize a common planning period for teachers.	
Use a social bookmarking tool for teachers to share and annotate Web 2.0 sites in order to keep up with new tools.	Have teachers visit another school to see how other teachers and students use digital portfolios.	





Lesson 1: Visionary Leadership, A3: The NETS-A Standards



Meeting Challenges

School leaders face many challenges when implementing change. Review some challenges that may be faced by leaders who are changing a school's or district's approach to technology use in schools. Consider which NETS-A indicator would best help the administrator for each challenge.

1. Drag the **challenge** to the most relevant NETS-A indicator that it could help address.
2. When you are finished, Click **Next** to continue.

Feelings that social media is inappropriate for schools.

Too many students with different needs.

District staff not convinced that technology integration can make a difference.

Lack of interest in technology from staff.

Promote, model, and establish policies for safe, legal, and ethical use of digital information and technology

Facilitate and participate in learning communities that stimulate, nurture, and support administrators, faculty, and staff in the study and use of technology

Provide learner-centered environments equipped with technology and learning resources to meet the individual, diverse needs of all learners

Collaborate to establish metrics, collect and analyze data, interpret results, and share findings to improve staff performance and student learning

SUBMIT

TRY AGAIN





Lesson 2: Professional Practice, A2: Professional Development Research

Effective Professional Development

High quality professional development is critical when trying to integrate technology and improve teaching and learning. An in-depth study demonstrated that instructional technology professional development, integrated into a comprehensive professional development program, may lead to effective technology integration that can have positive outcomes for students.

According to the research, high-quality professional development for technology integration has several essential characteristics. These characteristics should be addressed in any type of professional development, face-to-face or virtual.

(Research from [Rodriguez, G., & Knuth, R., 2000,](#) and [EDC, 2010](#))

- ✔ Connection to Practice
- ✔ Hands-on Technology
- ✔ Peer Collaboration
- ✔ Ongoing Process
- ✔ Adequate Resources
- ✔ Evaluation

1. Click **each characteristic** of high-quality professional development for technology integration.
2. When you are finished, click **Next** to continue.



Intel Teach Goals

Intel® Education offers professional development opportunities for teachers to help become 21st century practitioners.

1. Roll over the **computer** to see what participants learn to do in Intel courses.
2. When you are finished, click **Next** to continue.





Lesson 3: Digital Age Teaching and Learning, A2: Intel Teach Portfolio

Elements Courses

Intel® Teach Elements courses are self-paced, or can be facilitated, e-learning courses, that offer just-in-time professional development for busy teachers. The courses include interactive learning experiences and offline activities.



1. Click **each image** to learn more about the Elements courses.
2. Open **Intel Teach Elements** to help you get started exploring the courses.
3. When you are finished, click **Next** to continue.

Project-Based Approaches



Assessment in 21st Century Classrooms



Collaboration in the Digital Classroom



Thinking Critically with Data



Inquiry in the Science Classroom



Designing Blended Learning



Intel Teach Elements





Thinking Tools

The Intel® Education teaching and learning resources help educators play a critical role in facilitating 21st century learning activities, pose questions, and encourage students to think deeper.

Online thinking tools help teachers develop technology-rich lessons. The tools are:

- Customizable—teachers bring their content into open-ended tools
- Designed for K–12 teachers of all subjects
- Based on research that demonstrates the value of visual representation in constructing and retaining new information

1. Roll over each **caption** to read about the online thinking tools.
2. Click the **Next** button under the image caption to see more tools.
3. When you are finished, click **Next** to continue.





Project-Based Approaches

Project-based learning is a student-centered instructional model. Through this approach, students develop content area knowledge and skills through an extended task that promotes student inquiry and authentic demonstrations of learning in products and performances.

Designing Effective Projects includes a collection of over 60 exemplary Unit Plans that integrate technology into classroom projects, align to standards, promote higher-order thinking, and engage students in authentic project tasks.

1. Roll over the highlighted areas to learn about the elements of a project-based unit.
2. When you are finished, click **Next** to continue.



Enduring Heroes

Unit Summary

Greek mythology is referenced in our everyday lives. We wear Nike® shoes, shop for Midas™ mufflers, and commend people for doing Herculean feats. But who were these people with special powers? Students read stories about the heroes of Greek mythology and compare the characteristics of Greek heroes to modern heroes. Students explore the question, *What is a hero?* and consider how the definition may change across time and culture. They then select a contemporary hero and write a myth based on the hero. The myths are written as digital books that can be shared with younger students or read to senior citizens as a service-learning project. This could be done as an integrated unit on Greek civilization.

Curriculum-Framing Questions

- **Essential Question**
What is a hero?
- **Unit Questions**
What meanings do the Greek myths have for us today?
How do you write a myth?
- **Content Questions**
Who were the ancient Greek heroes and what were their stories?
What are the qualities of a Greek hero?
Who are modern heroes?

Assessment Processes

View how a variety of student-centered assessments are used in the Enduring Heroes Unit Plan. These assessments help students and teachers set goals; monitor student progress; provide feedback; assess thinking, processes, performances, and products; and reflect on learning throughout the learning cycle.

Instructional Procedures

Week One: Heroes in History and Myth

Introduce the unit by posing the Essential Question to students, *What is a hero?* Have students record their own ideas in a journal. Then, hold a whole-class discussion around the question asking students to give examples of heroes in their lives. Use chart paper to record all definitions. Begin to generate a list of contemporary heroes. Explain to students that they will be learning about classical and contemporary heroes and examining their definition as they read about the heroes of the past and present.

At a Glance

Grade Level: 5-8
Subjects: Creative Writing, Social Studies
Topics: Greek Mythology, Creative Writing, Greek Civilization
Higher-Order Thinking: Decision Making, Analysis
Key Learnings: Greek Gods and Goddesses, Greek Heroes, Contemporary Heroes, Writing a Myth
Time Needed: 3 weeks
Background: From the Classroom in Utah, United States

Things You Need

Assessment Standards Resources
Download this Unit (21P, 377KB)







Assessment

Assessment in 21st century classrooms is student-centered, ongoing, and embedded throughout instruction. With the focus on developing students' 21st century skills, new assessment strategies are needed. *Assessing Projects* helps teachers create assessments that address 21st century skills and provides strategies to make assessment an integral part of teaching.

1. Roll over the **tabs** to learn more about the *Assessing Projects* Web site.
2. When you are finished, click **Next** to continue.



Assessing Projects : Using Assessment to Improve Teaching and Learning

Home • Education Home • K-12 Education • Teaching Tools

Overview and Benefits | **Try It** | **Assessment Plans** | **Assessment Strategies** | **Workspace**

When assessment drives instruction, students learn more and become more confident, self-directed learners. *Assessing Projects* helps teachers create assessments that address 21st century skills and provides strategies to make assessment an integral part of their teaching and help students understand content more deeply, think at higher levels, and become self-directed learners.

Overview and Benefits >
Learn more about the features of *Assessing Projects*. Read research about the benefits of different kinds of assessments.

Try It >
See how easy it is to use *Assessing Projects* using a demonstration version. Follow a tutorial that helps get you started.

Assessment Plans >
Get project ideas from other teachers who have used *Assessing Projects* in the classroom.

Sign-In

Workspace

Quote to Note

"The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn."

Alvin Toffler
American futurist





Other Resources

Additional resources are available from Intel® Education to support and model best practices.

1. Roll over the **caption** to learn about more resources.
1. Click the **Next** button under the image to see more sections.
3. Open **Intel Tools and Resources** for an overview of the Web site and links to the tools and resources. Explore the site.
4. When you are finished, click **Next** to continue.





Welcome, A1: Welcome to Module 2

Module 2: Collaboration with Technology

In Module 2, you investigate how web-based tools enable administrators, teachers, and students to collaborate and communicate with each other and the world. You also consider how online communities can create a positive environment, discuss and learn best practices to protect against online threats and misuse, and explore how technology and policy can work together.

1. Roll over **each lesson title** to read the lesson objective.
2. Click **Next** to continue to **Lesson 1**.



Lesson 1: New Tools for Collaboration

Lesson 2: Online Safety and Ethics

Lesson 3: Online Communities

Lesson 4: Module Review

MODULE 2 : LESSON 0 out of 4





The Collaborative Web Defined

As with most technology, the Internet is constantly evolving. Some call the current generation of tools available on the Internet **Web 2.0** or the read-write Web. Collaboration is the common feature of new Web applications, and it is what distinguishes the current Web from the static Web of the past. In order to “inspire...a shared vision of purposeful change that maximizes use of digital-age resources,” educational leaders need to understand the powerful collaborative resources available on the Web. ([NETS-A, 2009](#))

1. Click the **computer screens** to learn the differences between the “old” Web and today’s collaborative Web.
2. Click **Next** to continue.





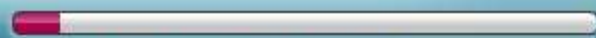
Benefits and Purposes for Educators

The collaborative Web provides numerous ways to communicate and participate. Web 2.0 resources:

- Bring together creative and communal practices (such as image sharing sites)
- Push content to users (such as podcasts and other RSS feeds)
- Allow for electronic invitations, group subscriptions, and features that allow communities to create, share, and track the work of others in the same field
- Provide knowledge through a variety of modes to share and advance what is known
- Support social, multimodal, and multimedial literacy

(Coughlin & Kajder, 2009)

1. Roll over each **image** to see educator benefits for using online collaborative tools.
2. Click **Next** to continue.



MODULE 2 : LESSON 1 out of 4





A Look at a Few Collaborative Tools

While one Web 2.0 application collection site ([Feedmyapp, 2009](#)) has documented over 8,000 collaborative tools in 74 categories, a few specific categories of tools are used by millions of people daily and in classrooms around the world. Through these tools, students are drawn into extended educational conversations with peers, experts, and others in the discovery, exploration, and clarification of knowledge ([Hargadon, 2009](#)).

1. Roll over the **caption** to see an explanation of a collaborative tool.
2. Click the **Next** button under the image to see the next collaborative tool.
3. View **Online Collaborative Tools** to see the list of tools referenced in this course.
4. Click **Next** to continue.



Online Collaborative Tools



MODULE 2 : LESSON 1 out of 4



Online Collaborative Tools

Online collaborative tools can be organized into eight main categories. Click a category or tool type to access links and information about sample tools and resources. Additional tools may be found in the Intel® Teachers Engage Online Community (<http://engage.intel.com>), a community for educators that focuses on core topics of the Intel® Teach Program. Explore the *Topic by Content* folders for the categories of tools.

Elementary

NOTE: This icon means the Web site has no age restrictions, and the tool is appropriate for younger students. Other tools may be appropriate for elementary grade use with the teacher's facilitation.

Category	Tool Type	Classroom Use
Research & Search	<ul style="list-style-type: none"> Bookmarking File sharing Photo sharing Source citation 	Teachers and students save, comment on, organize, and share research resources.
Collaborative Writing	<ul style="list-style-type: none"> Blogs Collaborative documents (word processing, spreadsheets, charts, databases, graphs, presentations, and so on) Wikis 	Teachers and students write, share, and collaboratively create online content.
Communication & Messaging	<ul style="list-style-type: none"> Instant messaging Microblogging Video and audio conferencing 	Teachers and students communicate with each other, other classrooms, community members, and experts.
Visual Creation	<ul style="list-style-type: none"> Drawing Graphics creation Image editing Mind mapping/graphic organizers Vodcasting/video editing 	Teachers and students design, share, and collaboratively create online visual content.
Audio Creation	<ul style="list-style-type: none"> Audio creation and editing Podcasting 	Teachers and students design, share, and collaboratively create

Educational Leader Communities

Ascd edge

<http://ascdedge.ascd.org/>

An online community to connect with colleagues, peers, and mentors. Share video, audio, photos, blogs and more with other members and comment on community and ASCD content.

Classroom 2.0

<http://www.classroom20.com/forum/topic/listForTag?tag=administration>

Social network for those interested in Web 2.0 and social media in education. Free membership. Includes forums, special interest groups, and online events, such as webinars. This Web address brings up all discussions that have been tagged "administration."

Connected Principals

<http://connectedprincipals.com/>

A blog comprised of a group of school administrators who share their views on education. The site serves as an organized resource with categories relevant to school leaders. The purpose is to share best practices by principals.

Education World: Message Board Center

<http://community.educationworld.com/forum>

Discussion boards on topics such as professional development, technology integration, school administrators, and school issues.

The Educator's PLN

<http://edupln.ning.com/>

A Ning site that facilitates connections between educators. It features a variety of resources such as downloadable podcasts with education leaders, discussion groups, and links to relevant blogs, videos, resources, and events.

Intel® Teachers Engage Online Community

<http://engage.intel.com>

Discussion boards on core topics of the Intel® Teach program: effective use of technology, instructional design, project-based approaches, assessment of 21st century skills, and open-ended questioning.

Linked In

www.linkedin.com/

Join any number of educational groups on Linked In. Connect and collaborate with



Eight Collaborative Tool Categories

A wide range of collaborative online tools are available for students and educators. Eight online tool categories are each identified by a puzzle piece.

1. Click each **puzzle piece**.
2. Roll over the **connected puzzle piece** to view a brief description of tools in that category and sample classroom uses.
3. Click **Next** to continue.





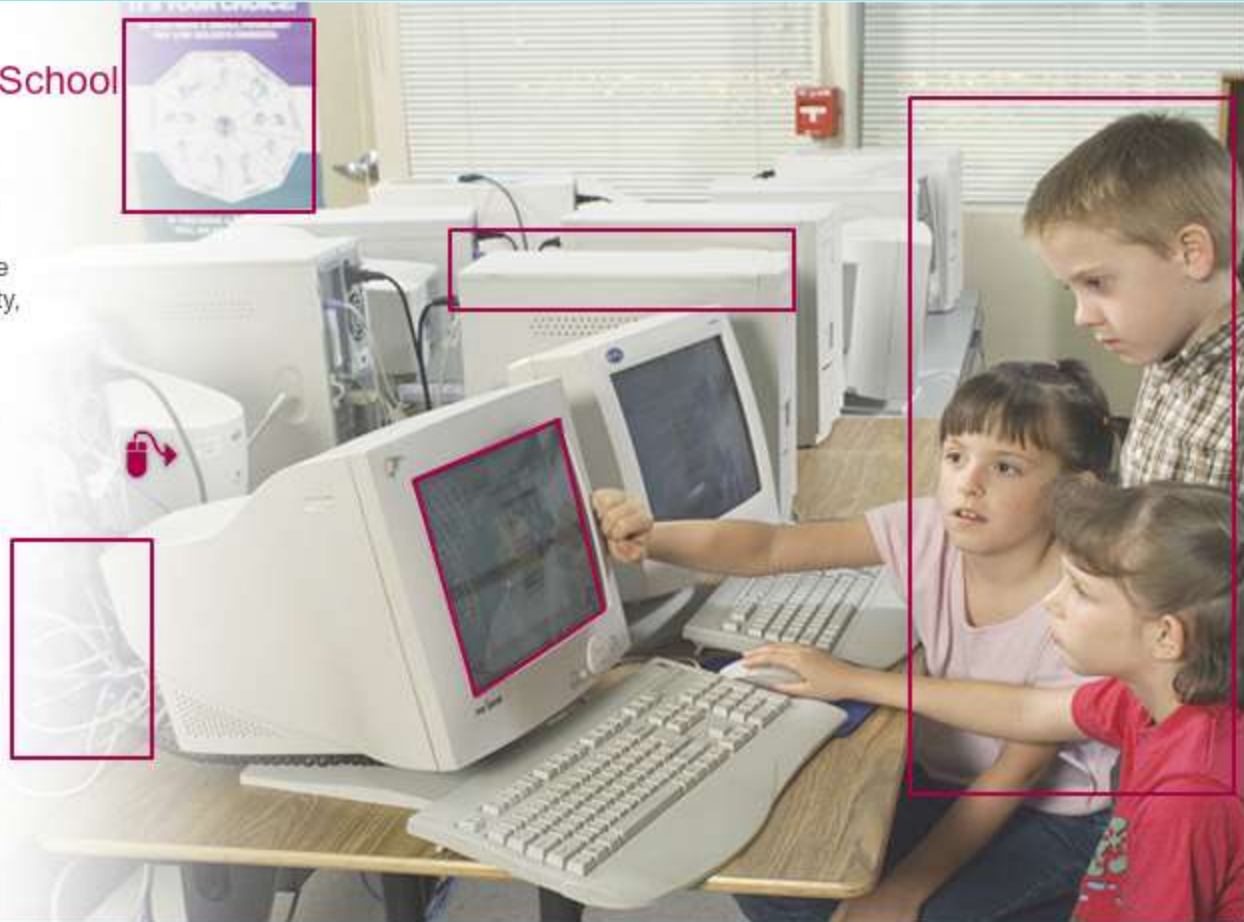
Lesson 2: Online Safety and Ethics, A1: Internet Safety

Overview of Safety Needs in a School

Internet-connected computers present a unique challenge to schools. Teachers want students to access educational content, collaborate with experts, and share ideas and knowledge, but the Internet can pose security risks for privacy, safety, and unlawful use.

Consider multiple efforts to protect students, equipment, and information. Educational leaders need to support and establish policies for safe, legal, and ethical use of digital information and technology ([NETS-A, 5b](#))

1. Click the **classroom items** to view how a school defends against inappropriate use of the Internet.
2. Click **Next** to continue.





Protecting Student Privacy

Districts are legally bound by law and ethically expected to protect students' privacy.

When establishing standards for collaboration or publishing student content online, ensure student information is protected.

1. Roll over the **pictures** to see ways to protect student information and strategies for teaching safe Internet use.
2. Save the **Tips for Protecting Student Privacy** in your Course Folder for future reference.
3. Click **Next** to continue.



Tips for Protecting Student Privacy

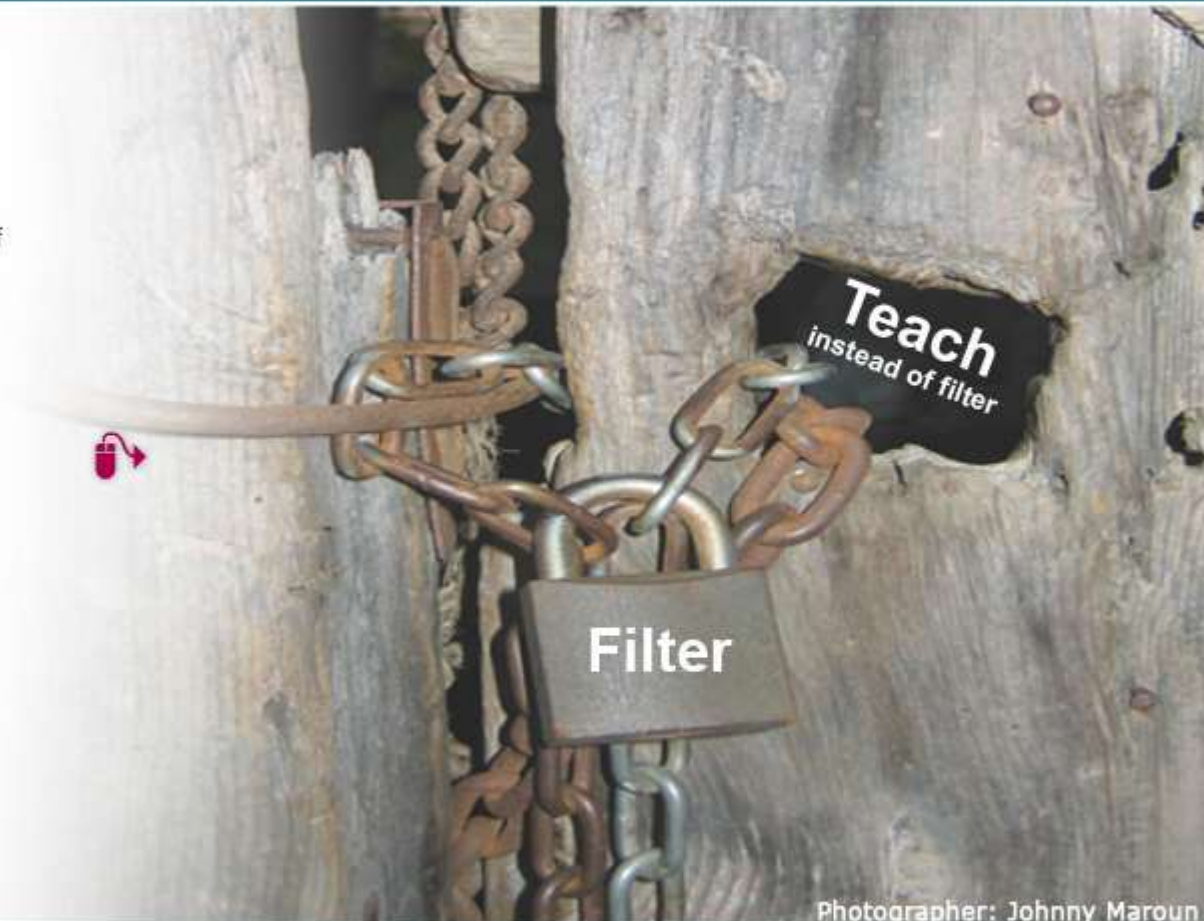




Censorship and Filters

Online collaborative tools are often blocked in schools due to fears of inappropriate use. Educational leaders disagree on the best course of action, especially in the upper grades.

1. Click **Filter** and **Teach** to view the *pros* and *cons* to Internet filtering.
2. Click **Next** to continue.



Photographer: Johnny Maroun



Real Lives of Students

Parents expect educators to educate their children as well as keep them safe. Often, safety concerns draw extreme, overprotective reactions from educators and online use becomes highly restricted. However, most students already participate in online and electronic communication outside of school. Therefore, students are better served when educators help students learn safe behaviors—instead of isolating students from rich learning opportunities online during school hours.

1. Click the **mobile phone** to view how students see social media and technologies.
2. Click the **girl** to view teenagers communicating in various ways.
3. Click the **caption** to see statistics of teenage use of electronic communication devices and tools.
4. Click the **Next** button under the image to see the next example of how students communicate electronically.
5. Click **Next** to continue.



MODULE 2 : LESSON 2 out of 4

Progress bar and navigation controls (back, home, play/pause, forward) are visible.



Extension Topic

Copyright and Creative Commons

Educational leaders need to require students and teachers to follow copyright law and respect intellectual property. In supporting collaboration, leaders must “promote, model, and establish policies for safe, legal, and ethical use of digital information and technology” ([NETS-A. 5b](#)).



Creative Commons

Public Domain

Fair Use



1. Click the **terms** on the screen to read their definitions and roll over the **definitions** to see examples.
2. Open and read the **Copyright Guidelines and Resources**.
3. Click **Next** to continue.



Copyright Guidelines and Resources





Benefits of Online Communities

Educational leaders are expected to “promote and participate in local, national, and global learning communities that stimulate innovation, creativity, and digital-age collaboration” as well as “facilitate and participate in learning communities that stimulate, nurture, and support administrators, faculty, and staff in the study and use of technology” (NETS-A, 2009). Online communities can be a tremendous help in bringing individuals together to further knowledge and support change.

1. Roll over **each stick figure** to view the benefits and uses of online communities for educators.
2. Click **Next** to continue.





Online Community Features

An online or virtual community is a "social network of individuals who interact through specific media...to pursue mutual interests or goals" ([Wikipedia, 2010](http://en.wikipedia.org/wiki/Online_community)). Many online communities, such as the Intel® Teachers Engage Community (<http://engage.intel.com>), have similar features.

1. Roll over the **highlighted areas** to view typical features of online communities.
2. Click **Next** to continue.





Communities for Educational Leaders

Several communities exist to support administrators and educational leaders. View one or more sites to see if any fit your situation.



1. Click the **computer screen** to view the reasons an educational leader may want to join an online community.
2. View **Educational Leader Communities** and visit one or more sites.
3. Click **Next** to continue.



Educational Leader Communities





Communities for Teachers

When searching for an online community to support the needs of teachers, consider whether the community will “stimulate innovation, creativity, and digital-age collaboration” ([NETS-A, 2009](#)).

1. View **Teacher Communities** and visit one or more sites.
2. Click **Next** to continue.



Teacher Communities





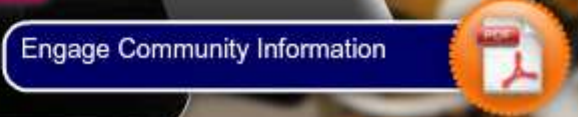
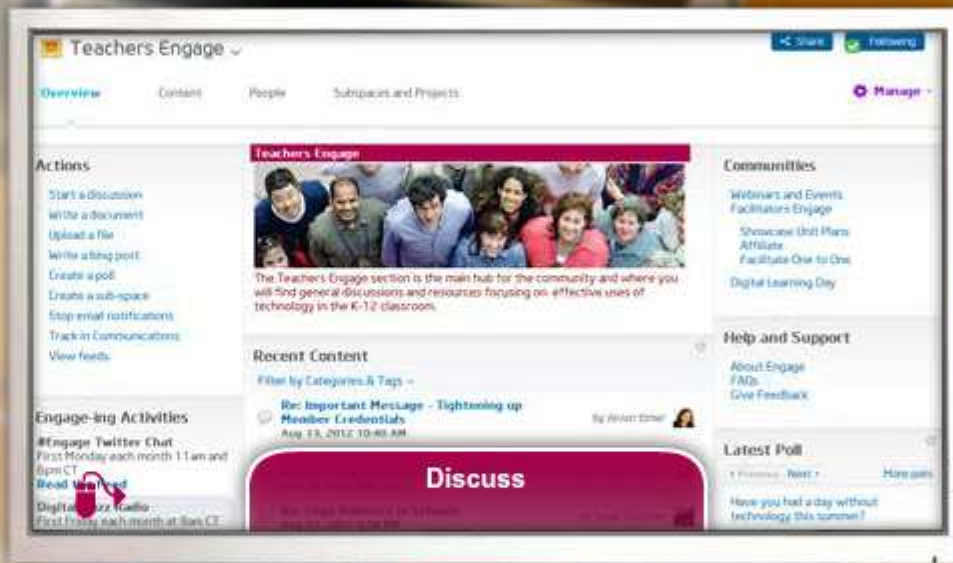
Extension Topic

Teachers Engage Online Community

The Intel Engage Community (engage.intel.com) is a global community open to all educators dedicated to transforming the K-12 classroom through effective technology integration. The community provides an environment for educators to focus on core topics that are part of the Intel® Teach Program, such as:

- Effective use of technology
- Project-based learning
- Assessment of 21st century skills
- 1:1 learning
- Science, Technology, Engineering, and Math (STEM) Resources

1. Roll over the **caption** to see what you can do in the Intel Engage Community.
2. Click the **Next** button under the image to see additional features.
3. View **Engage Community Information** for more information.
4. Click **Next** to continue.





Extension Topic

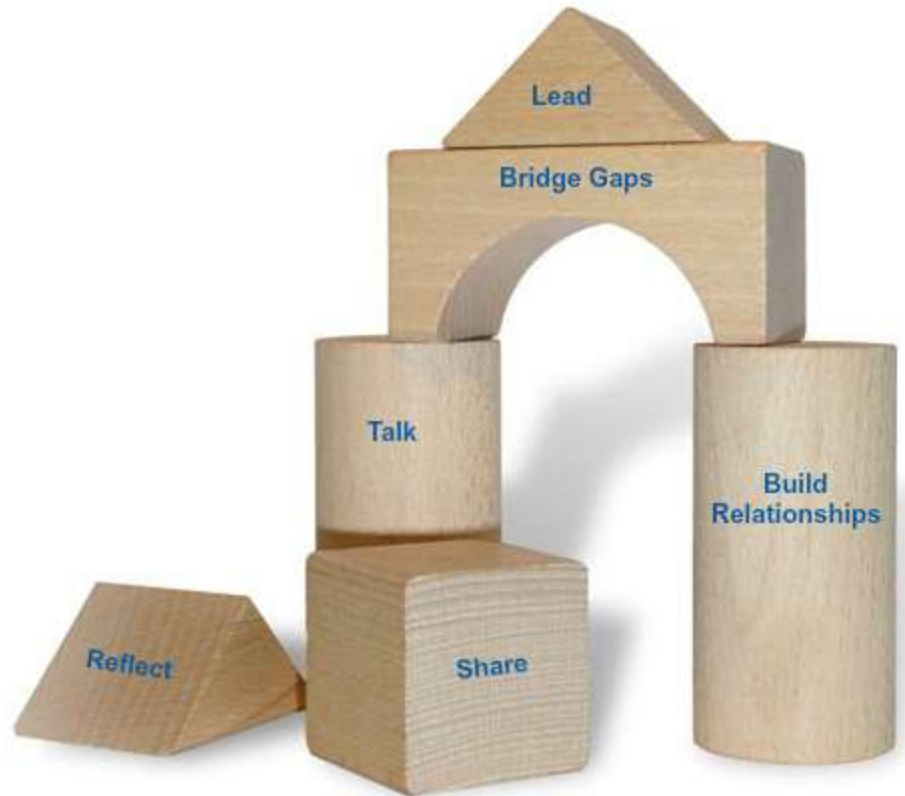
Benefits of Your Own Community

Creating a community specifically for your teachers can help to support and promote change in your school and district.

1. Roll over **each block** to view the benefits of creating your own online community.
2. View **Creating an Online Community** for additional ideas and resources for creating and supporting an online community.
3. Click **Next** to continue.



Creating an Online Community





Lesson Extension

Module 3: Technology Trends

Module 3 provides an overview of topics that are expected to transform teaching and learning in the near future.

Each lesson is an extension activity.

Use the **Menu** to select topics that interest you.

1. Roll over each **lesson title** to read the lesson objective.
2. Click **Next** to continue to **Lesson 1**.



Lesson 1: Evolving Technology Access

Lesson 2: Online Learning

Lesson 3: E-books





Three Technology Trends

Ray Kurzweil poses the idea that advances in technology are exponential, rather than linear. He claims that in the 21st century we will experience 20,000 years of progress ([Kurzweil, 2001](#))! This rate of change demands that leaders stay abreast of technology trends and think about ways to use new technologies to enhance student learning. Each year, the Horizon Report identifies trends in educational technology ([Johnson, L., Adams, S., and Cummins, M. \(2012\). NMC Horizon](#)). This module will examine three of these trends ([Glass, 2009; Office of the Governor, 2008](#)).

1. Roll over the **caption** to read about a technology trend.
2. Click the **Next** button under the images to see the next trend.
3. Open **2010 Horizon Report** to read more about technology trends.
4. When you are finished, click **Next** to learn about Evolving Technology Access, or use the course **menu** to select other trends to investigate.



NMC Horizon Report: 2012 K-12 Edition



MODULE 3 : LESSON 1 out of 4



Effective One-to-One E-learning

The success of any education reform effort, such as one-to-one e-learning, depends on thoughtful planning and preparation.

Jeff Mao, the technology director for the Maine Department of Education, explains “One to one is not a tech project...” He advises schools thinking of implementing one-to-one e-learning to start the planning process with the academic community ([School CIO, 2010](#)). Starting with academic goals, rather than technology tools, will keep a one-to-one program focused on what is important—student learning.

Other stakeholders, such as parents, students, and teachers whose courses may be affected by online offerings, should also be included in the process.

1. Open **One to One E-learning Resources** to read more about one-to-one e-learning.
2. When you are finished, click **Next** to continue.



MODULE 3 : LESSON 1 out of 4





Lesson 1: Evolving Technology Access, A2: One-to-One E-learning

Student and Teacher Roles

It's "impossible to overstate the power of individual teachers in the success or failure of 1-to-1 computing" ([Bebell and Kay, 2010](#)).

Conventional instruction, where teachers are in control of student learning, is not compatible with one-to-one computing environments. Both student and teacher roles must change if the benefits of individual computers are to be realized.

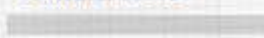
1. Click each **arrow** to see a photo and roll over the **photo** to read a teacher's views.
2. When you are finished, click **Next** to continue.



Knowledge consumers
to knowledge producers



Individual workers to
collaborators



Teacher-dependent to
self-directed learners





Smartphones

Cell phones that can connect to the Internet as well as access a variety of useful and interesting applications, or smartphones, are quickly becoming a powerful mainstay in today's digital communication. Teens are especially attached to these devices and use them for a wide range of purposes ([Lehman, 2009](#)).



1. Roll over the **smartphone** to read statistics about young people and smartphones.
2. When you are finished, click **Next** to continue.



Intel® Education Galaxy

www.edugalxy.intel.ru



Партнёры Галактики ▾

О сообществе [Форум](#) [Баллы и призы](#) [«Новичкам»](#) [Поиск](#)

Образовательная Галактика Intel



Мини-ПК с Intel Inside®

Новый тип настольных компьютеров >



Важное

Блоги

Форумы

В фокусе сообщества: выбор редакции

Где найти точку опоры, чтобы перевернуть урок?

Сегодня о "перевернутом обучении" мы говорим много, очень много... Но, по-прежнему, мы находимся в поиске той точки опоры (именно поэтому в качестве эпитафии взяты слова Архимеда), которая позволит нам перевернуть... Перевернуть что?...

Что мы надумали со студентами ПГСГА в наших аудиторных дискуссиях? ... Дальше »

Автор: Вруксина Olga Вчера, 3:42 Комментариев: 9



Вход в Галактику

Логин

Пароль ?

Вход Регистрация



Элементы

Образовательные программы Intel



CHANGE

AHEAD



Thank YOU

Tatiana.Nanaieva@intel.com

INTEL® ARCHITECTURE

ADVANTAGES FOR EDUCATION

FULL-FEATURED PLATFORMS

- Support for multitasking
- Online/offline file access
- Peripheral compatibility including USB

MANAGEABILITY AND SECURITY

- Security and management tools
- Classroom collaboration to optimize learning efficiency
- Secure content and apps deployment

PLATFORM AND SOLUTION INNOVATION

- Innovative solutions
- Robust PC performance
- Knowledge creation aligned to curriculum

LEGACY CONTENT SUPPORT

- Approved content and curriculum
- SW Compatibility (Adobe Flash* and JavaScript*)
- Easy to integrate existing materials

OPEN ECOSYSTEM AND ARCHITECTURE

- Interoperable technologies
- Choice of vendors
- Maximize value by leveraging existing infrastructure