ICT in Education
Smart Learning (I. Part)

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AGENDA:

Transforming Education for the Next Generation
Planning to integrate ICT into education
Ensuring Long-Term Success (Contents and teacher professional development)
META countries in Action

Achieving YOUR VISION of Student Success
WHY INVEST ICT IN EDUCATION

• Government are already using billions of US dollars each year for classical education systems. They usually ineffective, inefficient and inconsistent if not updated and improved by technology.

• Due to lack of standardization of resources, the classical system cause more differentiations, inequalities in opportunities. Rich always learn more and better than Poor; they receive bigger share from the Pie.

• Digital learning can help to close the gap in Digital Divide.

• ICT based education system is for the future generations, gives them new skills and intelligent knowledge.

• With e-content, they learn as they play and they play as they learn. Whatever learned stays with them since they enjoy the learning process – Good learning experience

• Education Transformation is in reality an Education Based ICT Transformation. Students will teach digital skills to their friends – families; whole society benefit, not just students.

• Digital Literacy is key to increase the Broadband Penetration, Internet Usage and e-inclusion
Benefits of Education Transformation

Employment and Economic Development
• Build 21st century workforce
• Reduce unemployment

Competitiveness
• Equip every student for success
• Increase academic rigor and achievement

Citizenship and Social Equity
• Unlock student potential
• Prepare students for social leadership and citizenship

“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
Shifting the Learning Paradigm

**Traditional Teacher-Centered Classroom**
Lecture-based knowledge dissemination. Limited use of technology.

**Transitional Teacher-Centered Classroom**
Lecture-based knowledge dissemination. Technology used for collaboration.

Evolving toward **STUDENT CENTERED CLASSROOM**
Shifting the Learning Paradigm

Student-Centered Classroom
Technology-rich environment enables learning any time, anywhere, any way

TECHNOLOGY has changed the way we LIVE AND LEARN
Viewing Education Requirements from Several Perspectives

• What Teachers Might Need (Understand activities and requirements).

• What Students Might Need.

• What Parents Might Need.

• What School Administrators Might Need
Understand overall Constraints

- Geography and terrain (for example, rural, remote, or rugged)
- Population density
- Electrical power (quality and existence)
- Availability of broadband Internet connectivity
- Weather, climate, and other environmental concerns
- Socio-economic factors
- Language and customs
- Existing or legacy infrastructure
Intel Global Girls and Women Initiative

Empower millions of girls and women through education and technology to advance economic opportunity

**Education Access**
Drive awareness and action to expand education opportunities for girls

**STEM & Tech Careers**
Inspire more girls and women to become creators of technology

**Technology Access**
Connect girls and women to new opportunities through technology access, digital literacy and entrepreneurship

*Building upon the foundation: Investing in our own talent and supply chain diversity*
Inspire Girls and Women to Become Creators of Technology

- Use of hands-on “Maker” and coding activities
- Exposure to peer mentors and role models
- Connecting technology and engineering careers to real world applications and positive social impact

Examples of Programs and Partnerships:
- Girls Who Code
- NCWIT AspireIT
- Robotics programs
- Hermanas: Diseña Tu Futura
- Compugirls
- TechGYRLS
- Intel Computer Clubhouse Network Start Making! program
- Intel International Science and Engineering Fair and the Intel Science Talent Search*
- EPICS program
- Higher Ed Scholarships and fellowships

Girls Who Code Video: [http://www.youtube.com/watch?v=QVwr01AxbJo](http://www.youtube.com/watch?v=QVwr01AxbJo)

*programs of Society for Science & the Public
Intel® She Will Connect Program

Goal: Empower millions of girls and women through technology and bridge the Internet gap

- Directly responds to findings and call to action in 2013 Intel-supported “Women and the Web” report to empower women in developing countries.

- Innovative combination of digital literacy training, online peer networks, and gender-relevant content.

- To be piloted in sub-Saharan Africa in 2014 and then scaled to other regions.

- Program to be delivered through partnerships with leading local NGOs and other organizations.

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Achieving YOUR VISION of Student Success
Intel® Education Solutions

Flexible, holistic education technology solution

User Experience

Hardware

Software & Services

Content Ecosystem

Implementation Support
**School Station**
Primary usage is for administrative tasks. Students and Teachers have limited access.

**DESCRIPTION**
- The basic ICT configuration relies on just a few computers at school where usage is focused on School Administration Tasks and Professional Learning.
- Teachers and Students may have limited access to computers in the Media Center/Library primarily for research purposes.
Information and Communication Technology Models in Education

Labs
Computers are stationary. Focused primarily on Digital Literacy (ICT skills) and limited integration of Core Curricula activities.

DEVICES
- Desktop
- ALL in ONE
- NUC

USAGES
- Digital Literacy
- Language Labs
- Some integration into core curricula

CLASSROOM MANAGEMENT
All students devices are connected with the teacher’s computer.

FEATURES
- Labs are stationary and can foster 1:1 or 1: many learning environments.
- Time spent using technology is limited to availability of Lab.
- The teachers may begin integrating technology into the core curriculum.
- Professional Learning focuses on Digital Literacy.
- Focus areas can include ICT skills development, online assessments, and limited Core Curriculum (math, language, science, etc).

RECOMMENDED ACCESSORIES
- Headsets
- Printer
Information and Communication Technology Models in Education

In Class
Devices are mobile and foster 1:1 learning environment. Teachers share access to devices and plan curriculum accordingly. Learning becomes more technology-enhanced but in short periods of time.

FEATURES
- In-classroom set of digital learning tools subject to availability to be used inside the classroom for all subjects.
- Also known as a Computers on Wheels model where the devices are on a charging cart and wheeled from room to room.
- Teachers plan curriculum according to availability of devices.
- In-class digital learning usage prepares students and teachers for a more comprehensive use of technology in a 1:1 environment.
- Professional Learning focuses on integration of technology into core curriculum and movement to a student-centered environment.
- Focus areas can include STEM, staff and parents communication, and online assessment.

DEVICES
- Tablet
- Laptop
- 2 in 1
- For more information click here

STUDENTS LEARNING DEVICES
- For more information click here

TEACHER DEVICE
- For more information click here

SECURITY SOFTWARE
- For more information click here

WHITEBOARD
- 200

SERVER
- 200

CHARGING CART
- Allows charging, transporting and storing devices
- Next Unit of Computing (Nuc) • +40
- Tower Server • 200

Wired (Ethernet) / Wireless Internet Access
(mobile devices are connected to the network).

ACCESS POINT

USAGES
- Activity-based
- Project Learning
- Virtual Learning Environment

CLASSROOM MANAGEMENT
- All students devices are connected with the teacher’s computer.

RECOMMENDED ACCESSORIES
- Headsets
- Printer
Personal 1:1

Features:
- The Personal model facilitates Personalized Learning, allowing device usage anytime, anywhere.
- The one-to-one computer model allows for improved usage of a wide range of digital materials and focuses on a true student-centered learning environment where students take control of their own learning through high-quality education software, comprehensive digital content, and tools.
- A faster connection also enables online assessment and evaluation.
- Measurement of skills and digital content is embedded in the curriculum.
- Teacher becomes a tutor and expert facilitator: refresh cycle and security plans take place.

Devices:
- Tablet
- Laptop
- 2-in-1
- Chromebook

Usages:
- Comprehensive Digital Content and Tools Integration
- Embedded Measurement of Skills and Content

Classroom Management:
- All students devices are connected with the teacher’s computer.

Recommended Accessories:
- Headsets
- Printer

Optional:
- Charging Cart

Compelling Content Local / On Server / In Cloud
Good computing facilitates sharing of resources / content / software over a network.

Security Software

Interactive Whiteboard

Access Point

Server

Next Unit of Computing (Nuc)

Tower Server

Use Multiple Servers or Blades

Networking Information click here

Labs

In Class

School Station

Personal 1:1

Wireless Internet Access (A robust network to support all students online at one time)
Bridging connectivity issue inside Classroom

**Easy to service:** open back to access battery, HDD, 3G/4G/LTE

**Easy to mount in a classroom** – bracket and screws included. Can be easily removed from wall mount for educator to transport from classroom to classroom OR to and from home

RJ-45 jack provides access to school Ethernet network

USB 3.0 port provides an additional easy way for educators to upload their content or for IT administrators to update device settings.
ICT in Education solution elements

- Technology: devices—cell phones, tablets, netbooks, laptops, PCs, servers and networks—communications and computing
- Connectivity: broadband Internet access, wired or wireless
- Digital Content: learning material from the Net, multimedia CD/DVDs, podcasts, or other digital media
- Improved teaching methods include student-centric models, project-based learning, etc.; and professional development that helps teachers effectively integrate technology into their curriculum.

And to facilitate your implementation you should have the following support systems
1. Policy
2. Funding
3. Metrics and assessment
4. Commercial industry partners
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Achieving YOUR VISION of Student Success
The Achievement of Measurable Learning Outcomes is key focus of the design and assessment.
Supporting a worldwide Education Publisher and Content Developer Ecosystem

- Education content from major publishers
- Innovative learning content and tools from innovators
- Core Curriculum and Supplementary Learning
- Rich interactive eBooks
- Creative Learning Tools
- Local Content Development

Investments in software & service industry drives local capacity development and youth employment
Intel® Education Resources

3 years.
6 million implementations.
28 countries.
And growing.

Courseware and supplemental apps to support 21st century skills development

- World-class resources
  Curated courseware and supplemental apps

- Multi-platform and OS
  Use the device and OS that meets your needs

- Global reach
  Available in major languages from Intel® Education and global/local partners

- Offline access
  For anytime/anywhere usage

- Easy to install
  With support from Intel

3 easy steps to get Intel® Education Resources!

1. Send request for courseware or supplemental apps,

2. You will receive an e-mail with a link to our Download Center where you can download the latest build.

3. Accept the license agreement to download.
Building Success with Intel® Education

CURRICULUM AND ASSESSMENT

Intel Education Collaborates to Advance and Align Curriculum and Assessment

- Intel® Education Alliance: worldwide network of content and solution providers to expand high-quality, locally relevant content
- ATC21S: Research-driven assessment initiative supported by Intel, Cisco, and Microsoft
- UNESCO ICT-Competency Standards for Teachers
- International Society for Technology in Education (ISTE)
- Collaborative Assessment Alliance

RESULTS-DRIVEN resources, tools, and collaborations
Professional Development for Your Customers’ Success

It takes **5-6 YEARS** for teachers to **master technology integration**¹

**INADEQUATE PD** is a **significant barrier** to successful technology integration in schools¹

**INFORMAL** or **GENERAL TRAINING** has **little effect** on teachers’ use of technology¹

For technology implementations to be successful, teachers need the skills to make effective use of the technology in the classroom

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<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
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<tbody>
<tr>
<td>Moving into Mobile Learning</td>
<td>Learn the benefits and challenges of mobile learning, and how to create a successful mobile-learning environment in their classrooms.</td>
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<tr>
<td>Assessment in 21st Century Classrooms</td>
<td>Learn to plan, develop, and manage student-centered assessment strategies for improved teaching and learning.</td>
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<tr>
<td>Designing Blended Learning</td>
<td>Explore transitioning to blended learning experiences where some portion of learning occurs online and outside of a classroom setting.</td>
</tr>
<tr>
<td>Project Based Approaches</td>
<td>Explore the features and benefits of project-based learning to engage students with self-directed learning.</td>
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<tr>
<td>Creativity in the Mobile Classroom</td>
<td>Build on concepts from Moving into Mobile, learning to implement mobile learning effectively, while encouraging students’ creativity.</td>
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<tr>
<td>Collaboration in the Digital Classroom</td>
<td>Design and manage collaboration activities that integrate online tools and prepare students for a globally connected world.</td>
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<tr>
<td>Inquiry in the Science Classroom</td>
<td>Explore ways to develop students’ scientific thinking and practices.</td>
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<tr>
<td>Thinking Critically with Data</td>
<td>Examine critical thinking with a focus on data analysis – preparing students to think analytically in our knowledge-driven world.</td>
</tr>
<tr>
<td>Leadership in the 21st Century</td>
<td>For school Leaders: Explore school leadership practices and policy for effective digital learning</td>
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Education Transformation in Action

META Momentum

- Turkey
  - Kocaeli State
- Egypt
- Rwanda
- UAE
- South Africa
- Morocco
- Niagara
- Lebanon