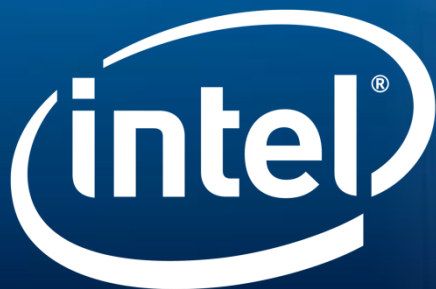


Transforming Education

Dr Martina Roth
Director Global Education
Strategy, Research, Policy

Corporate Affairs Group



Global Transformations



**Knowledge is the
most valuable resource**



**in the
Information & Communication Society**

Systemic Education Transformation



Multi-Stakeholder-Partnerships



Intel Education



\$1+ Billion Invested
70+ Countries



Improving Education Through Collaboration



Governments
of more than
70 countries

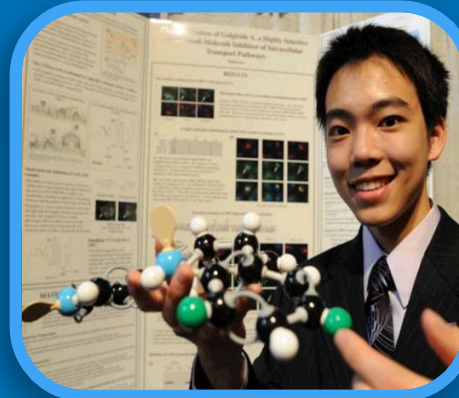


Making an Impact

*Access and
Equality*



Innovation



*Socio-Economic
Development*



*Employability &
Entrepreneurship*



Generation Y = Our Future



Intel Teach

7+ Million Teachers
60+ Countries



Developing 21st Century Skills
Student Centered. Project Based.



Intel Learn

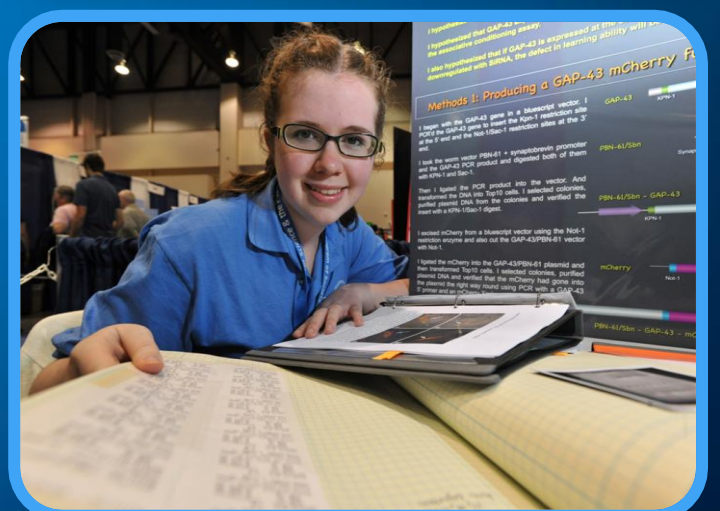
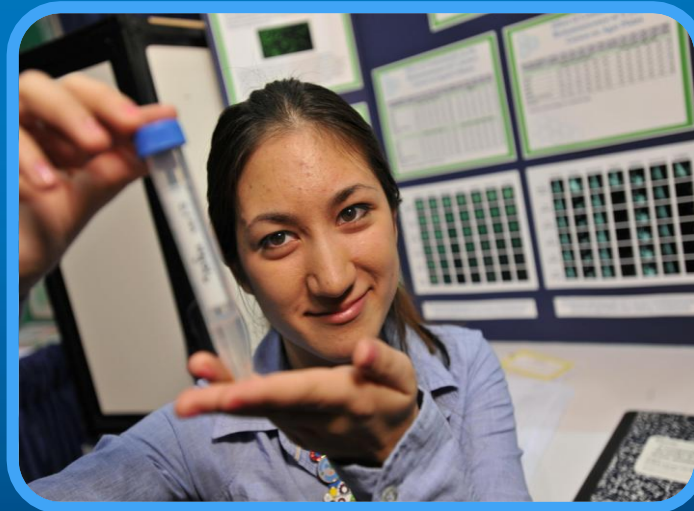
1+ Million Young People in 12 Countries



Developing 21st Century Skills
Student Centered. Project Based



Inspiring the Next Generation of Innovators



Intel ISEF

Intel STS

Intel Entrepreneurship

Enable. Develop. Promote.

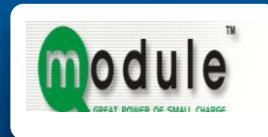


Human Capital Development Professor/Student support

Curriculum

Entrepreneurship

Research & Scholarships



>70 countries

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



Assessment & Teaching for the 21st Century



www.atc21s.org



A Multi-Stakeholder Partnership

Mission: A multi-stakeholder collaboration led by Cisco, Intel & Microsoft to help transform teaching, learning and assessment of skills needed by students to succeed as citizens and workers in 21st century.

Team: international team with more than 257 researchers

6 founding countries: Australia, Finland, Portugal, Singapore, UK, USA

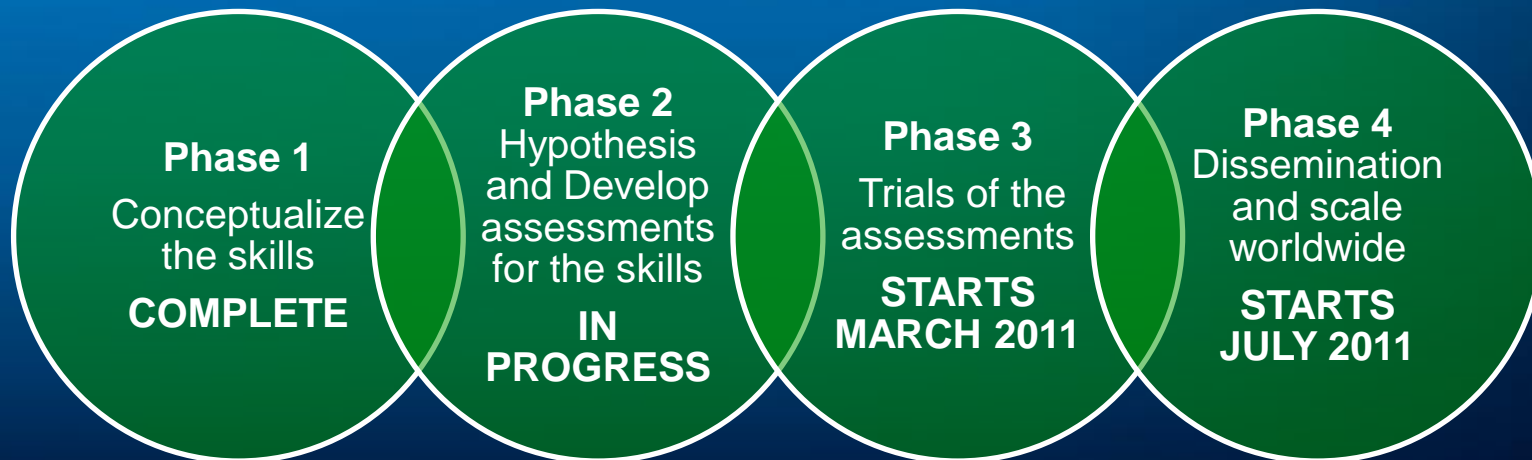
Endorsed by global assessment organizations: Organization for Economic Cooperation and Development (OECD), the International Association of the Evaluation of Educational Achievement (IEA)



Assessment & Teaching for the 21st Century



- ❖ Traditional assessments do not measure 21st century student skills effectively, nor do they incorporate the use of ICT.
- ❖ Reforming assessment is key to enabling systemic change in education.
- ❖ Educational assessments drive consistency in what is taught in schools. Formative and summative.
- ❖ Goal is not to impose one test on every community
- ❖ Goal is to inform the development of the next versions of international benchmarks.



Conceptual Phase 2009: White Papers

- ❖ **Define the skills to focus on**
 - ❖ Critical thinking, problem solving, decision making, collaboration, ICT literacy
- ❖ **Set out a methodology**
 - ❖ How to measure such abstract concepts as collaboration and creativity
- ❖ **Examine the technological implications**
 - ❖ Computer-based assessments allows capture students' thinking, not just answers
- ❖ **Examine formative classroom assessment**
 - ❖ Assessments need to look at group performance, as well as individual performance
- ❖ **Outline the policy frameworks for new assessments**
 - ❖ Moving from small-scale experimentation to wide scale implementation



Research Leads:

- ❖ **Executive Director:** Professor Barry McGaw, University of Melbourne
- ❖ **Defining 21st Century Skills:** Ms Senta Raizen, WestEd
- ❖ **Methodological Issues:** Dr Mark Wilson, University of California, Berkeley
- ❖ **Technological Issues:** Dr Beno Csapo, University of Szeged, Hungary
- ❖ **Classrooms and Formative Evaluation:** Dr John Bransford, University of Washington & Dr Marlene Scardamalia, University of Toronto
- ❖ **Policy Frameworks for New Assessments:** Dr Linda Darling-Hammond, Stanford University



Task Development 2010

Cognitive Labs, Trials



Initially focusing on 3 skills, out of 3 categories:

- ❖ **Ways of thinking**
 - ❖ Creativity and Innovation 2011
- ❖ **Ways of working**
 - ❖ Collaborative problem solving
- ❖ **Tools for working/ Living in the world**
 - ❖ ICT digital literacy/ Personal, social responsibility through social networking



Currently in Hypothesis and Development process to define assessment tasks and learning progressions while examining how proficiency can be assessed and teaching and learning strategies needed for teachers to support students.



Pilots, Dissemination and Scale 2011



- ❖ Pilot countries
- ❖ Accession countries
- ❖ Links to PISA and TIMSS
- ❖ Policy Framework and Assessment Guide
- ❖ Web Community

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Process and Results in Public Domain. Online Communities and Groups



Classroom Embedded Assessment



Intel® Teach Program

Thinking with Technology Course

[Change Picture](#) [Reset Picture](#)

Welcome to the Intel® Teach Thinking with Technology Course.

Intel® Teach Program
Essentials Course

Assessing Projects | Using Assessment to Improve Teaching and Learning

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

Personal Library | Search Libraries | Welcome, Guest | [Sign Out] | Edit Sign in Profile

You have assessments in your inbox [Show](#)

Assessment Library > Thinking Skills > Creativity

- Creative Flexibility Checklist—Elementary**
A checklist used by teachers to assess elementary students' flexibility at thinking and developing creative ideas and projects.
- Creative Flexibility Checklist—Middle School**
A checklist used by teachers to assess middle school students' creative flexibility.
- Creative Fluency Checklist—Middle School**
A checklist used by teachers to assess middle school students' creative fluency.
- Risk-Taking Checklist—Elementary**
A checklist used by teachers to assess elementary students' creative risk-taking.
- Creativity Evaluation Rubric—Elementary**
A rubric in student language used by elementary students to assess their ability evaluate their creative products.
- Risk-Taking Checklist—High School**
A checklist used by teachers to assess high school students' creative risk taking.

Intel® Teach Elements
A series of compelling professional development courses

Assessment in 21st Century Classrooms

Project-Based Approaches

**Plan,
develop,
manage
student-
centered
assessment.**

Take Assessment in 21st Century Classrooms Online

Learn new assessment strategies to meet needs of 21st century students.
[Review the Syllabus >](#)

Take Project-Based Approaches Online

Explore ideas and try new project-based approaches for your classroom.
[Review the Syllabus >](#)

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Moving from Conceptual to Practical Application



Thank you!

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Back Up



Systemic Education Transformation for Socio-Economic Growth

- **Policy:** aligned policies for quality learning outcomes, access to technology, funding etc
- **Curriculum & Assessment:** students' & teachers' assessment informing & embedded in curricula and e-content development
- **Professional Development:** for teachers focusing on 21st Century skills, effective use of technology, project based & personalized learning
- **Information & Communication Technology:** ICT solutions for schools to include teacher & student PC's, servers & broadband, software apps, tools & services, maintenance & support
- **Research & Evaluation:** education & technology research, program & deployment evaluation for continuous improvement on national and global level



Multi-Stakeholder-Partnerships with Governments