21st Century Challenges in Education

Guy Levi, Director of Innovation
The Center for Educational Technology (CET)

November 2012
The Center for Educational Technology (CET)

Goals

Promote
achievement and academic excellence in the 21st century

Create
equal opportunities to all children in Israel (Jews and Arabs)

Activities

In its 41 years of activity, CET, the leading educational technology NGO in Israel, has established its expertise and reputation by:

• Developing textbooks – Online digital textbooks alongside printed textbooks (in Hebrew and Arabic)

• Interactive learning activities that promote creativity, practice and assessment, i.e. simulations, videos, virtual labs, etc. in all subjects

• Paving new ways in professional development for educational staff

• Creating online systems and tools for teaching, learning, assessment & evaluation
21st Century Pedagogy – A New Paradigm?

- **New Literacy**
  Textual and Visual

- **21st Century Skills**
  Creativity and Innovation, Critical Thinking and Problem Solving, Collaboration

- **Ubiquitous Learning**
  Anytime, Anywhere, Any Device

- **Touch Revolution**
  New UI and UX
CET’s Solution
eBag - Innovative Technology for 21st Century Teaching and Learning
Digital Textbooks
Interactive Digital Content

Simulations and animations

The skateboarder is riding the half pipe.
Drag and release the skateboarder.
Notice the change in the skateboarder's velocity.
The bar chart on the left presents the skateboarder's kinetic energy (orange), potential energy (blue), and total energy.

Apply friction.
The skateboarder gradually decelerates (slows down) due to friction with the air, and his kinetic energy is converted into heat energy.

When the skateboarder comes

Kinetic energy
Kinetic energy is the energy of a moving object. For instance, when a car travels, it has kinetic energy. The faster it goes, the higher its kinetic energy. When the car is stopped, it has no kinetic energy.

Potential energy
Potential energy is the energy an object gains when it is lifted to a higher place. For instance, when children climb the ladder of a slide, they gain potential energy. When they slide down, they lose the potential energy that they gained.

When we drag the skateboarder up the side of the half pipe, he gains potential energy.

At the very moment when we release the skateboarder, he has no velocity at all and therefore he has no kinetic energy.

Riding downhill, the skateboarder loses his potential energy and gains kinetic energy.
Online and Blended Learning
Online Courses

Financial Education-

Flipped Classroom Model
Virtual Mentoring

Promoting Academic Excellence in the Periphery
Virtual High School
Promoting STEM Education
MindCET – Ed Tech Innovation Center

Innovation

Create and Capture Value

Entrepreneurs

Hands on research

Networking

Generate Knowledge and Ideas

Network of schools

Collaboration
21st Century Education: Strategy and Policy

Suggested topics

• Scalability of new models such as Competency-based Education, Personalization and/or Adaptive Learning

• The investment in STEM and its implications on education systems

• Mobile learning and its potential impact on current learning environments
The International Association for K-12 Online Learning

Who We Are
We are a nonprofit 501(c)(3) membership association based in the Washington, DC area with over 3,800 members. We are unique; our members represent a diverse cross-section of K-12 education from school districts, charter schools, state education agencies, non-profit organizations, research institutions, corporate entities and other content & technology providers.

What We Do
Advocacy - Support activities and policies that remove barriers and support effective online education.
Research - Facilitate, conduct and disseminate research, identify promising practices, and develop national K-12 online learning quality standards.
Professional Development - Offer professional development opportunities for administrators and teachers.
Networking - Promote the sharing of information, resources and expertise across the larger education reform community to drive future directions in K-12 online education.

Why We Do It
To level the playing field for students through online learning. Our mission is to ensure all students have access to world-class education and quality online learning opportunities that prepare them for a lifetime of success.

Latest News, Research and Resources
Keeping Pace with K-12 Online Learning: An Annual Review of Policy and Practice (October 2013)
Measuring Quality From Inputs to Outcomes: Creating Student-Learning Performance Metrics and Quality Assurance for Online Schools by Patrick, Wicks, Edwards, Watson (October 2012)
The Art and Science of Designing Competencies (CompetencyWorks, August 2012)
Statement of Principles for Model Legislation in States (July 2012)
CompetencyWorks (May 2012)
Classifying K-12 Blended Learning (Innosight Institute, May 2012)
INACOL Federal Policy Frameworks (March 2012)
Thank You