

National Higher Education Information and Communication Technology (ICT) Initiative: A Unique Partnership



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ICT Literacy Assessment in the 21st Century

- Takes advantage of the latest technology to assess
 - Cognitive and technical proficiency
 - Ethical and legal use of information
- Focus on higher order thinking skills, not just computer navigation and technical skills



Goals

To develop a realistic, scenario-based, problem-based assessment tool which is delivered over the web

To measure the breadth/depth of ICT proficiency among young adults seeking to continue their education or transition to the workplace



Background

- Builds on 2002 report, *Digital Transformation: A Framework for ICT Literacy*, written by the international ITC panel, which recommended diagnostic and large-scale assessment (<http://www.ets.org/research/icliteracy/ictreport.pdf>)
- CSU, lead charter client, working with ETS and 6 other colleges and universities (<http://www.calstate.edu/pa/news/ETS.shtml>)



Higher Education Partners (25% of 15m college students)

- California Community Colleges
- UCLA
- University of Louisville
- University of North Alabama
- University of Texas System
- California State University
- University of Washington



Partners

- Provided framework for what is important to measure
 - the proficiencies
 - the evidence (observable behaviors)
 - the tasks



ICT Proficiency

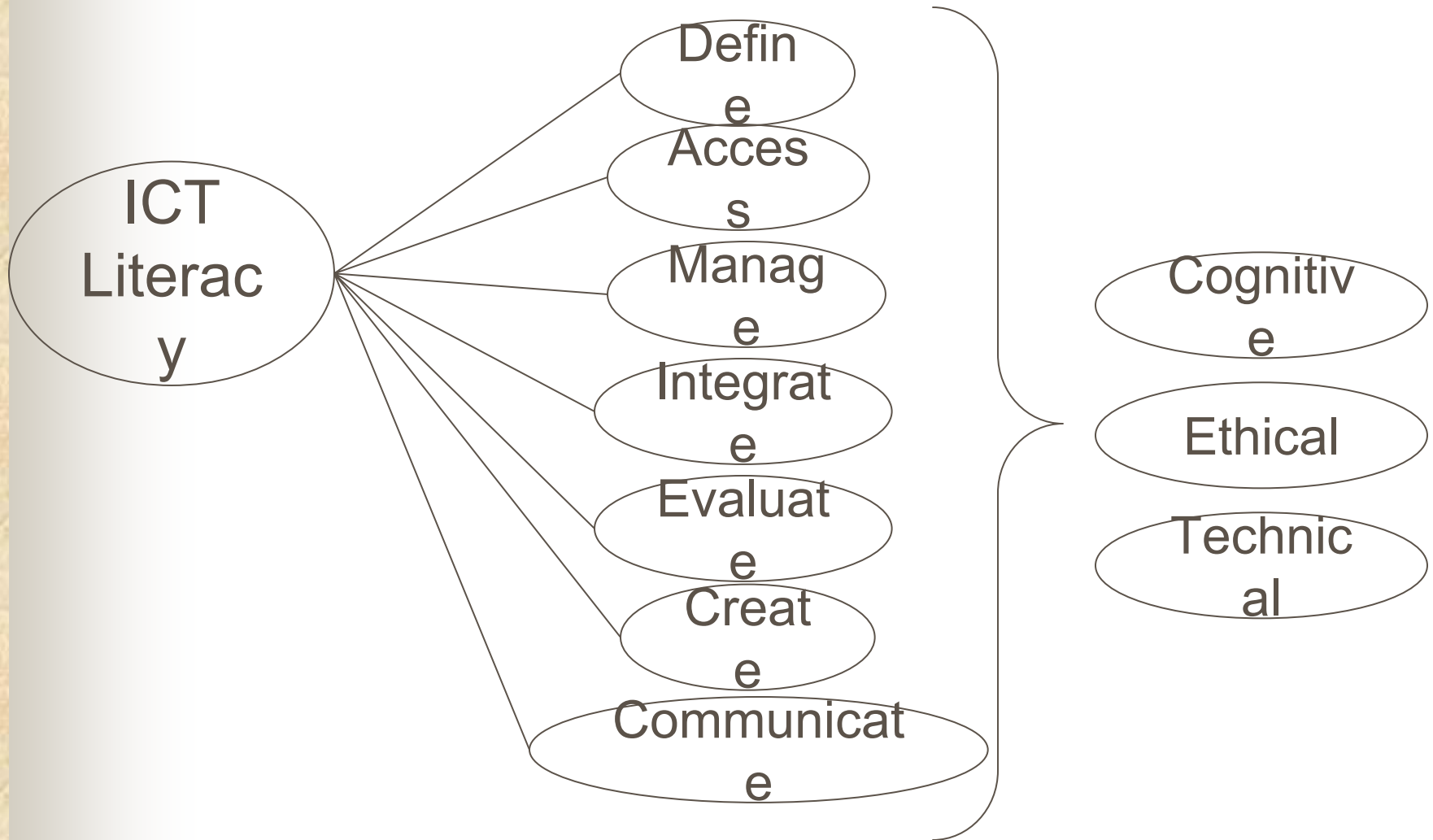
- Uses digital technology, communication tools, and/or networks to access, manage, integrate, evaluate, create, and communicate information ethically and legally in order to function in a knowledge society



ICT Proficiency

- **Define** an information need
- **Access** resources and information
- **Manage** information
- **Integrate** information
- **Evaluate** information
- **Create** new information/knowledge
- **Communicate** information to others

ICT Literacy Model





Potential Use (Policy Decisions)

- **Entrance to the university**
- **Entry to the major/professional program**
- **Graduation from the university**



Potential Use

- **Aggregated results of particular groups—
freshmen, transfers/juniors, seniors**

Comparisons across campuses or departments, within colleges/depts on a campus, from year to year



Potential Use

- **Individual results—used for certification on transcripts, take to potential employers, if students want to enroll in particular courses (technologically dependent), diagnose areas of weakness**
- **For planning—workshops to close proficiency gaps; classes, sections, or new courses to offer; assignments which stress ICT proficiencies**



Potential Use

Answer questions:

- 1. 70% of x students at a campus are at above basic level of ICT proficiency**
- 2. X% of transfer students are at basic ICT proficiency**



Test is not

- a technology test
- paper and pencil test transferred to the web
- a multiple choice test
- an essay exam



Instead, it is a cutting edge tool developed in partnership, which

- **Crosses disciplines and class levels**
- **Assesses ICT proficiencies specifically for the higher education environment**
- **Integrates scores for cognitive and technical abilities, along with those for ethical/legal use of information**



Timeframe--2004

- **ETS: use evidence-centered design principles to develop valid and reliable assessment instruments for secure delivery over the Internet, code tasks, build psychometric models, design automatic scoring mechanisms, suggest sampling plans, work on validity and reliability studies**
- **Higher Education Clients: field test questions**



Spring 2005

- **First large scale assessment testing (several thousand students)**
- **CSU System-wide Library Initiatives will cover the cost**
- **Test will contain performance-based tasks, last 2 hrs, taken in a lab**



2006

- **Test available for general use**
- **Not mandated in CSU, but hope to see wide use**
- **Have spoken to CSU Academic Affairs Committee of the Statewide Academic Senate, Test Officers, and Assessment Coordinators**



Beta Testing Dates

- **Three dates for field trials:**

July 1-15 (50 students)

August 15-30 (200 students)

**September 24 – November 17
(4000+ students)**



Hardware and Software

- CPU speed: 700MHZ or faster
- Graphics card: 1024x768, 16-bit color or better
- Internet Explorer 5.5 or above
- Macromedia Flash Plug-in 7.0 or above
- Operating System: Windows 2000 or XP
- 200kbit/sec or faster (broadband) Internet connection to the testing workstation



Additional Resources

- Project web site

(<http://www.ets.org/ictliteracy/>)

- *Succeeding in the 21st Century: What Higher Education Must Do to Address the Gap in Information and Communication Technology Proficiencies, 2003.*

(<http://www.ets.org/ictliteracy/ICTwhitepaperfinal.pdf>)