Technological Literacy in NJ: Background & Standards

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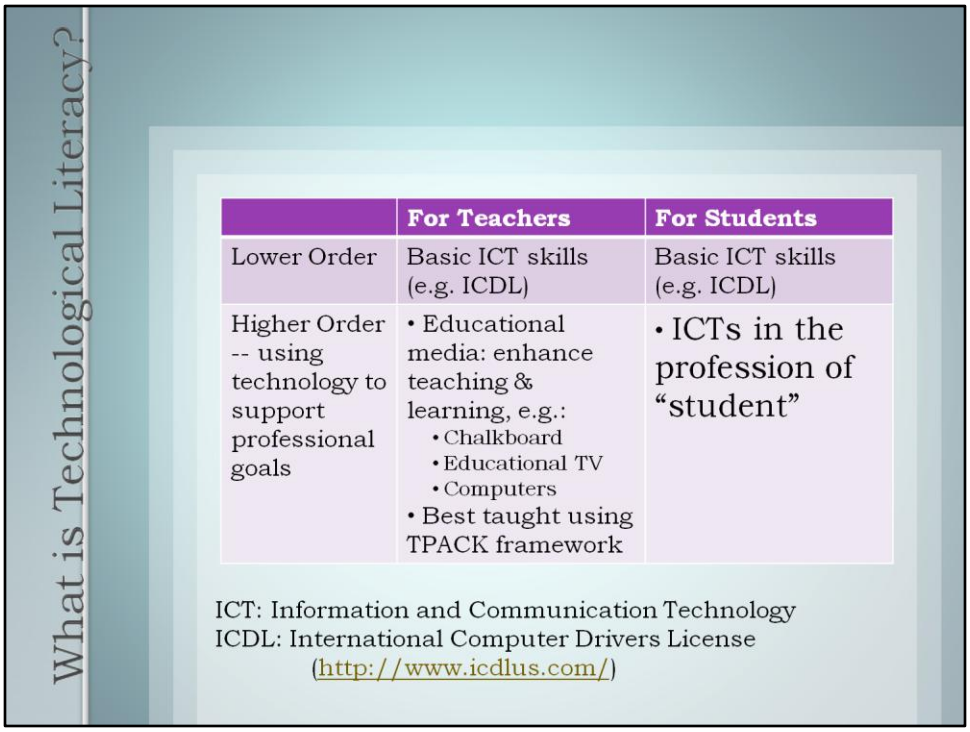


Need for both lower order & higher order skills, knowledge and understanding.

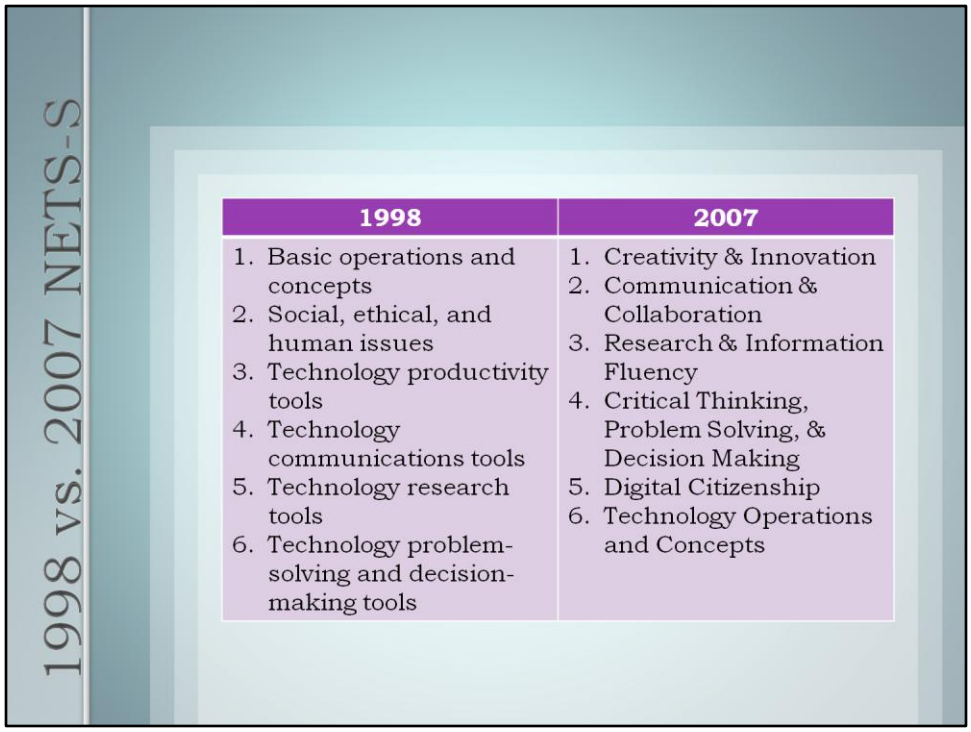
Mid to late 1990s
ITEA (now ITEEA) – 'woodshop' for nerds: CAD, computer programming, systems design

- The Nature of Technology
- Technology and Society
- Design
- Abilities for a Technological World
- The Designed World

AASL standards for students included higher order skills – teaching them to not just use the card catalog to find a book, but to locate and use appropriate information from a library resource – 1998:

- L1. Information Literacy
- L2: Independent Learning
- L3: Social Responsibility

ISTE NETS-S standards also included both lower order and higher order although 1998 focus was very much on technology

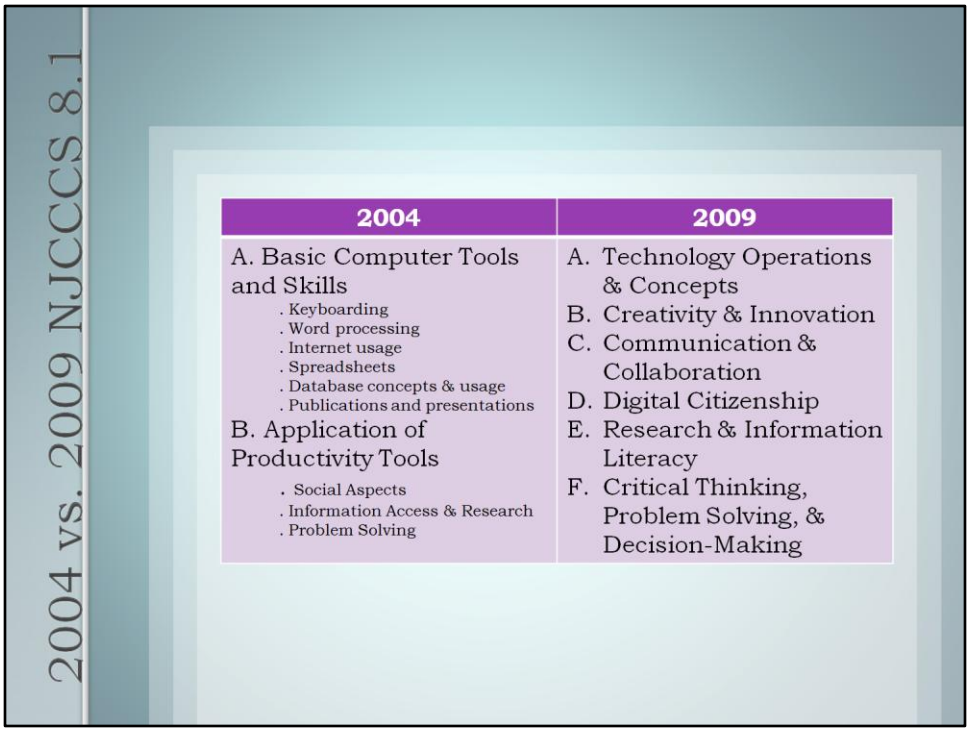


NJCCCS 8.1 standards: using ICTs to support processes used in the "profession of being a student"

1. Creativity & Innovation - Students demonstrate creative thinking, construct knowledge, & develop innovative products & processes using technology.
2. Communication & Collaboration - Students use digital media & environments to communicate & work collaboratively, including at a distance, to support individual learning & contribute to the learning of others.
3. Research & Information Fluency - Students apply digital tools to gather, evaluate, & use information.
4. Critical Thinking, Problem Solving, & Decision Making - Students use critical thinking skills to plan & conduct research, manage projects, solve problems, & make informed decisions using appropriate digital tools and resources.
5. Digital Citizenship - Students understand human, cultural, & societal issues related to technology & practice legal & ethical behavior.
6. Technology Operations & Concepts - Students demonstrate a sound understanding of technology concepts, systems, & operations.

NJ Tech Literacy Trends

- Initially part of Cross-Content Workplace Readiness Standards; result of Secretary's Commission on Achieving Necessary Skills (SCANS) report
- 2004: NJCCCS 8: Technological Literacy; result of NCLB Title IID
  - **8.1: Computer and Information Literacy**: All students will use computer applications to gather and organize information and to solve problems. (based on 1998 NETS-S & AASL Info Lit Stds) http://www.nj.gov/education/cccs/2004/s8_tech.pdf
  - **8.2: Technology Education**: All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world as they relate to the individual, society, and the environment. (based on ITEA STLs)
- 2009: **8.1: Educational Technology**: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge. http://www.nj.gov/education/cccs/2009/std8_tech.doc or http://www.njcccs.org/ContentAreaTabularView.aspx?code=8&Desc=+Technology
  - (based on 2007 NETS-S & Partnership for 21st Century Skills framework http://www.p21.org/documents/P21_Framework.pdf)

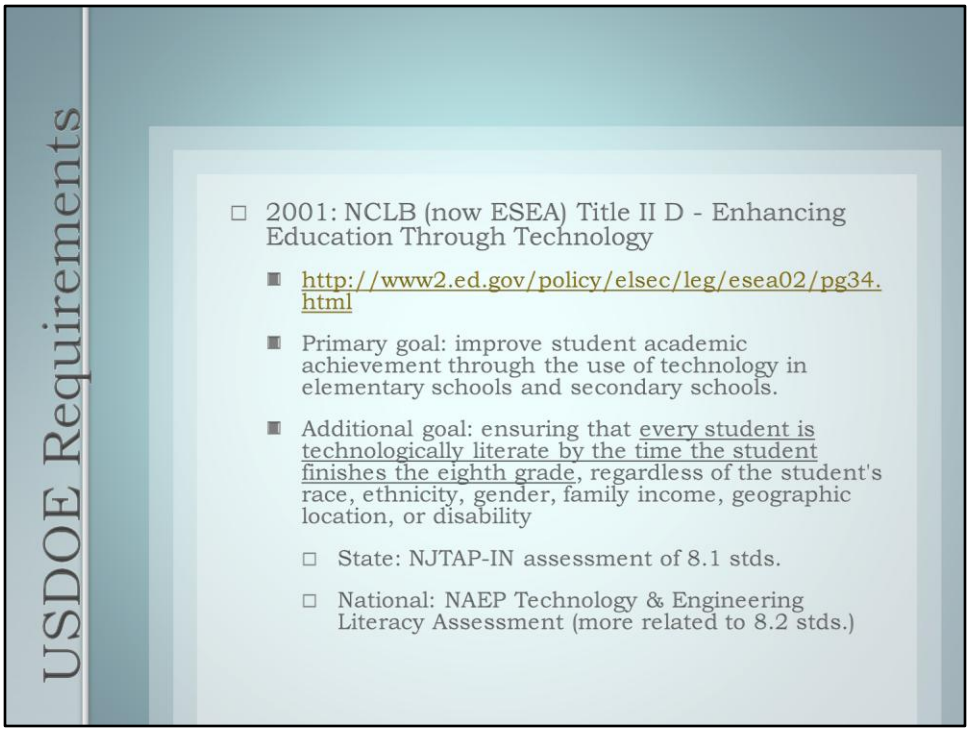


2004- 8.1 Computer and Information Literacy

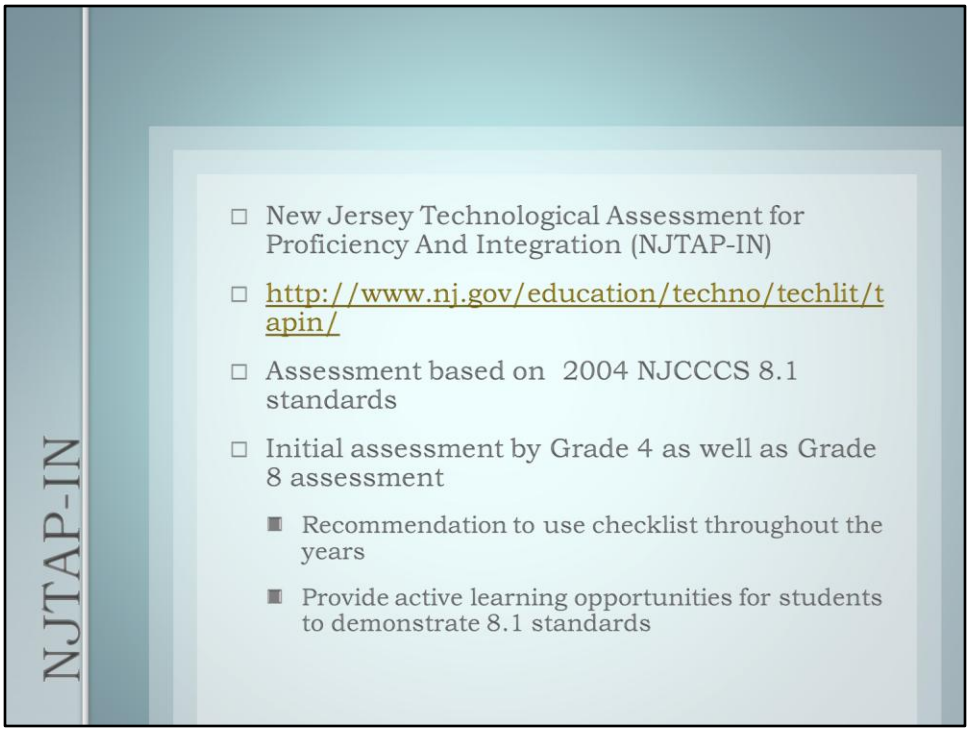
2009 – 8.1 Educational Technology

A. Technology Operations and Concepts - use of technology and digital tools requires knowledge and appropriate use of operations and related applications
B. Creativity and Innovation - use of digital tools and media-rich resources enhances creativity and the construction of knowledge.
C. Communication and Collaboration - Digital tools and environments support the learning process and foster collaboration in solving local or global issues and problems.
D. Digital Citizenship - Technological advancements create societal concerns regarding the practice of safe, legal, and ethical behaviors
E. Research and Information Literacy - Effective use of digital tools assists in gathering and managing information.
F. Critical Thinking, Problem Solving, and Decision-Making - Information accessed through the use of digital tools assists in generating solutions and making decisions.

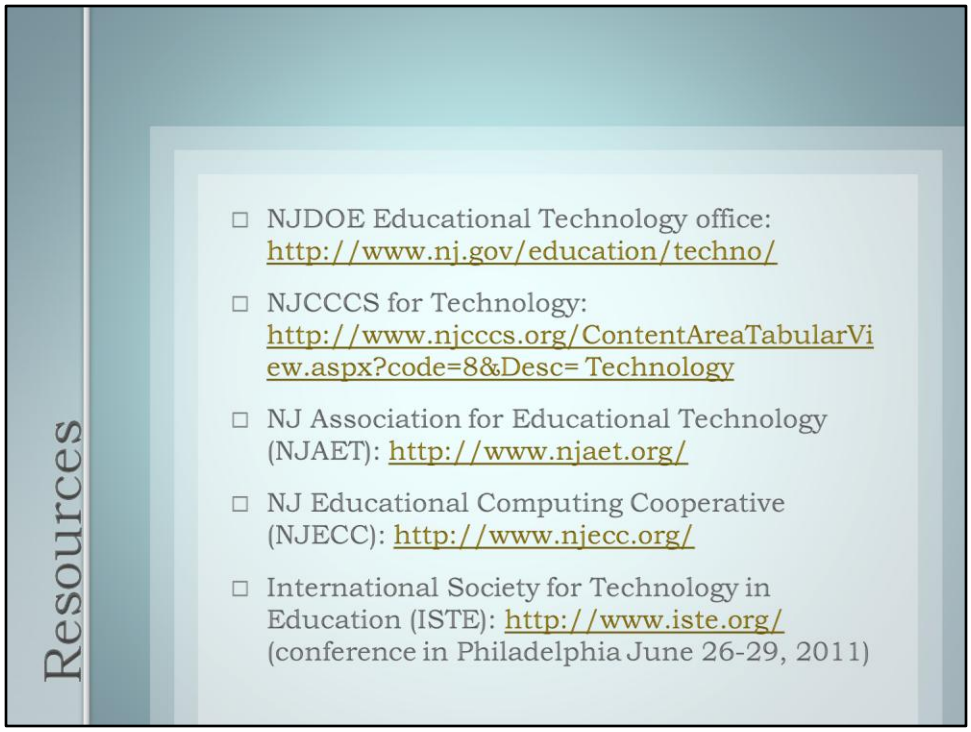
Very specific CPIs, starting with lower order skills at pre-K grade level. Workshops this afternoon will give ideas for helping your students meet these performance indicators.



Primary goal – higher order technological literacy skills for teachers (enhancing teaching with ICTs)
Secondary goal – 8th grade tech literacy
NAEP (2014, was 2012) grades 4, 8 & 12



Recommendation to districts for ensuring 8th grade technological literacy
Not sure about upgrading/further efforts for 2009 standards.
Provide active learning opportunities- afternoon workshops will hopefully give you ideas for helping your students demonstrate 8.1 standards and create artifacts to show their competencies.


Resources
NJDOE Educational Technology office: http://www.nj.gov/education/techno/
NJCCCS for Technology: http://www.njcccs.org/ContentAreaTabularView.aspx?code=8&Desc= Technology
NJ Association for Educational Technology (NJAET): http://www.njaet.org/
NJ Educational Computing Cooperative (NJECC): http://www.njecc.org/
International Society for Technology in Education (ISTE): http://www.iste.org/ (conference in Philadelphia June 26-29, 2011)