

# Using Digital Portfolios for ICT Literacy Assessment

**NECC Poster Session, Monday, June 30**

## **New Hampshire Presenters:**

Cathy Higgins, Ed.D., NH Dept of Education

Sonja Gonzalez, Fremont School District

Gerry Ryder, Shaker Regional School District

Karen Switzer, Laconia School District

[www.nheon.org/ictliteracy](http://www.nheon.org/ictliteracy)

# What's on the board?

- Session Overview
- Hebert article about Standards
- ePortfolio Course Syllabus
- Samples from various districts (Milford, Deerfield, Shaker Regional, Laconia)
- Portfolio PD Sessions List

[www.nheon.org/ictliteracy](http://www.nheon.org/ictliteracy)

# Features of the New Hampshire ICT Literacy Standards

- NH standards = “ICT literacy”
- ICT supports core content areas
- Based on national standards (NETS-S, Info Literacy, ITEA, 21<sup>st</sup> Century Skills)
- Creation of digital portfolios at all levels
- Portfolios assessed locally in 8<sup>th</sup> grade
- HS graduation requires ½ credit ICT course or demonstrated proficiency

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# How We Implement

Use NCLB Title II-D grants to support:

- Project based learning
- Building capacity with digital portfolios
  - Technology skills (teachers and students)
  - Blending ICT into curriculum / content areas
  - Importance of student reflections
  - Importance of student centered approach
  - School capacity for digital storage of artifacts
  - Portfolio organizing strategies (all kinds)

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# How We Assess

- Proficiency criteria determined at local level
- Digital portfolios assessed with rubrics
- Schools choose rubrics to use
- 8<sup>th</sup> grade portfolio defines competency for tech literacy reporting (summative)
- Portfolio at each grade defines individual instructional needs (formative)
- High school portfolios for instructional purposes and **optionally** for assessment of credit

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# Why Portfolios?

- Student engagement enhanced by portfolio approach. Students can:
  - customize to show who they are
  - make choices about what to include and why
  - reflect on their work (deepen personal awareness and goal setting)
- Alternative to another test
- Avoid separation of ICT from content
- Promote 21<sup>st</sup> century learning tools and strategies within all content areas

## ICT Literacy Toolkit



### Introduction

### 1. Standards

### 2. Research

### 3. Case Studies

### 4. ePortfolio Support

### 5. Presentations

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# Introduction

## WELCOME TO THE ICT LITERACY TOOLKIT!

In July 2005, a new set of ICT Literacy standards took effect in New Hampshire. Thus began a multi-year change process in our schools designed to ensure that our students learn 21st century skills.

The information within this toolkit was gathered over the past few years from national, regional, and local sources. Materials used to be in three different sections of this website. We hope you will find that topics and resources are now more organized and easier to locate. Use the menu at left to browse through the pages and get acquainted with what's here.

This toolkit is a work-in-progress, just like the implementation of these standards. Here's a timeline for you to see our statewide progress:

### ICT LITERACY TIMELINE OF KEY EVENTS

2001	NCLB Act passes and includes <b>tech literacy Goal</b>
2002	NH State Board of Education initiates revision of state standards
2004	Standards revision process continues with review of national standards, committee work, public hearings, etc.
7/1/2005	<b>NH School Approval Standards</b> take effect. Former computer literacy section becomes ICT Literacy and includes portfolio requirement.
Winter 2005-06	NHDOE begins <b>tech assistance</b> to districts regarding the new standards

# Visit our toolkit...

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## ICT LITERACY TIMELINE OF KEY EVENTS

- |                |  |
|----------------|--|
| 2001           | NCLB Act passes and includes <b>tech literacy Goal</b>   |
| 2002           | NH State Board of Education initiates revision of state standards  |
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| 7/1/2005       | <b>NH School Approval Standards</b> take effect. Former computer literacy section becomes ICT Literacy and includes portfolio requirement. |
| Winter 2005-06 | NHDOE begins <b>tech assistance</b> to districts regarding the new standards   |
| Spring 2006    | NHDOE with local PD centers host spring workshops connecting standards to curriculum   |
| Summer 2006    | NHDOE and local PD centers conduct ICT Summer Institute. Six institute teams create <b>case studies</b> and sample portfolios.             |



Summer 2006	NHDOE and local PD centers conduct ICT Summer Institute. Six institute teams create <b>case studies</b> and <b>sample portfolios</b> .
Winter 2006-07	Online PD course developed for OPEN NH initiative (Engaging K12 Students with Digital Portfolios)
Spring 2007	Portfolio study conducted re: student engagement and achievement
Summer 2007	Portfolio course piloted by OPEN NH
Fall 2007	Ed tech grants support year-long series of digital <b>portfolio PD sessions</b> for school teams
Winter/Spring 2008	Digital portfolio PD offerings continue. Portfolio course offered again by OPEN NH.
February 2008	<b>Annual school tech survey</b> provides data on progress with ICT and portfolio assessment
Summer 2008	Begin to identify model projects and accompanying rubrics to use for common assessment tools statewide

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### REQUIREMENTS & TRENDS

#### Federal Requirements

The U.S. Department of Education **Office of Educational Technology** manages the Enhancing Education Through Technology Program (**Title II Part D**), a program created with the enactment of the federal No Child Left Behind Act. **Title II Part D** requires that *every student should be technology literate by the time they finish the 8th grade.*



#### State Requirements

All of the New Hampshire School Minimum Standards were updated and became effective on July 1, 2005. **New Hampshire School Minimum Standards** include a section for ICT Literacy (Ed 306.42) which require *students to complete at least 1/2 credit* of computer technology literacy prior to high school graduation. These standards are **were revised and updated** to better reflect current understanding of 21st century literacies. The NH Department of Education released a **Technical Advisory (#2)** to provide answers to frequently asked

## Standards

### NEW HAMPSHIRE STANDARDS



[Get PDF version here](#)

#### Ed 306.42 Information and Communication Technologies Program.

(a) The local school board shall require an integrated approach to the use of 21<sup>st</sup> century tools, including, but not limited to digital technology and communication tools, within all curriculum areas through the adoption of an information and communication technologies literacy (ICT) program in grades K - 12 that provides opportunities at developmentally appropriate levels for students to:

- (1) Develop knowledge of ethical, responsible use of technology tools in a society that relies heavily on knowledge of information in its decision-making;
- (2) Become proficient in the use of 21<sup>st</sup> century tools to access, manage, integrate, evaluate, and create information within the context of the core subjects of:
  - a. Reading ;
  - b. Mathematics;
  - c. English and language arts;
  - d. Science;
  - e. Social studies, including civics, government, economics, history, and geography;
  - f. Arts; and
  - g. World languages;

(3) Use 21<sup>st</sup> century tools to develop cognitive



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# Research

**Center for Applied Research in Educational Technology (CARET)**, managed by ISTE, is an excellent website to start looking for research about educational technology. A search for some useful questions about technology literacy yielded the following answers. Use the question links to view the research evidence used to answer each question:

**Q: How can technology influence student academic performance?** The CARET site answers "Technology improves performance when the application provides opportunities for students to design and implement projects that extend the curriculum content being assessed by a particular standardized test."

**Q: How can technology develop higher order thinking and problem solving?** CARET indicates "Technology can enable the development of critical thinking skills when students use technology presentation and communication tools to present, publish, and share results of projects."

American Association of School Administrators. (n.d.). **Preparing Schools and School Systems for the 21st Century**. Arlington, VA.

This study points out 16 major characteristics of schools and school systems capable of preparing students for a global knowledge/information age:

*"In the 21st century, schools will become nerve centers, with walls that are porous and transparent connecting teachers, students and the community to the wealth of knowledge that exists in the world, Schools in the 21st century will not be confined by their walls but will be encompassing of the entire community and the world... [They will become] digital hubs, which will be open electronically 24-hours-a-day, 7-days-a-week, 365-days-a-year..."*

Colburn, L.K. (2002, February). **Integrating laptops into multiple subject areas: Thoughts from teachers and students**. Reading Online, 5(6).

This article presents some interesting ideas about how tech literacy should be part of a school literacy curriculum. The Reading Online journal contains several pertinent articles in the archives of past issues.



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# Case Studies

## EFFECTIVE PROJECTS CASE STUDIES

The following Effective Projects Case Studies were submitted by schools or school districts in New Hampshire. Many of these projects (but not all) were funded through the federal Enhancing Education Through Technology Program. Each case study tells a story about a project that is making a difference!

- ♦ **Alton** - Implementing GIS, GPS and Internet mapping
- ♦ **Ashland** - Mobile laptop carts and professional development
- ♦ **Bartlett** - Laptops for teachers and NWEA for student assessment
- ♦ **Claremont** - iPods, iTalk, Reading First listening center, digital portfolio artifacts, class blog
- ♦ **Derry Cooperative** - Using an Excel spreadsheet on handheld computers to solve combination word problems
- ♦ **Exeter Regional Cooperative** - Trained a cohort of teachers to become ICT trainers and mentors
- ♦ **Franklin** - Implement NWEA MAP testing in additional grades
- ♦ **Hampton** - Classroom project on creating Semitic Religions Brochure
- ♦ **Hampton** - Integrate social studies and language arts, use technology to present family history and background, based on study of immigration
- ♦ **Hampton** - Great Depression primary source documents
- ♦ **Hampton** - PowerBrokers professional development tech mentoring program
- ♦ **Jaffrey Rindge** - Professional development with Moodle online course management system
- ♦ **Keene** - Training and tools to help Teacher Trainers implement NWEA test and analyze data
- ♦ **Keene** - Using KidPix to enhance photos for 5th grade celebration
- ♦ **Laconia** - Differentiating instruction using NWEA for student assessment
- ♦ **Manchester** - Implementing a plan for digital portfolios in grades 3-5
- ♦ **Merrimack Valley** - Tech Mentor program for teachers with ongoing learning, planning, and problem solving opportunities focused on Digital Storytelling
- ♦ **Nashua** - Developing teacher leader cohort, pilot a K-8 digital portfolio system, and support with laptops, projectors, digital cameras, and after-school training
- ♦ **Oyster River Cooperative** - Study animals and ecosystems using Web 2.0 tools, Moviemaker, Audacity, and Geocaching
- ♦ **Plymouth** - K-8 school implementing digital portfolios
- ♦ **Profile** - Implementing new ICT literacy standards through faculty training and network infrastructure upgrades
- ♦ **Profile** - 16-unit wireless laptop cart to be used throughout the school





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# ePortfolio Support


**Digital portfolios** at the K-8 and 9-12 levels are ideal demonstrations of competence, as they can show how students competently use technology tools and resources within the context of core content areas.


**Grades K through 8** - The ideal ICT Literacy Program in grades K-8 weaves technology experiences into all content areas and all grade levels, so that a student can demonstrate ICT competency at the end of 8th grade. In order to meet New Hampshire's ICT standards, schools which currently provide a middle school course in computer literacy should review their course requirements to ensure that assessment rubrics applied to digital portfolios are being used. Such courses should not be considered stand alone courses, but rather opportunities to support content instruction with technology rich experiences.

**High School** - The ideal ICT Literacy Program in high school provides courses which allow students to focus on information and communication technology experiences that match their career aspirations. High school courses should be reviewed to ensure that topics listed in 306.42(c) are addressed and that a prerequisite for such courses is the completion of a digital portfolio as required in 306.42(a)(5).

## PORTFOLIO IMPLEMENTATION RESOURCES

 **Portfolio Cube Graphic** - Depicts portfolio components as described in the standards and includes references to the original National Educational Technology Standards (NETS-S) as well as the newer national standards (NETS Refresh).

 **Developing K-8 Portfolio Requirements** - This document can help districts plan out which artifacts they will require for student portfolios, starting from a look at their existing curricula.

 **Bow High School ICT Implementation** - This brochure was developed by the staff at Bow High School (Bow, NH) to describe to students how they could meet the ICT Literacy requirements. To prepare this information, teachers first looked at their high school courses and identified assignments within their courses that could qualify as potential portfolio artifacts. This way, students know which artifacts they can or cannot choose when assembling their portfolios.

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# Presentations

**View presentation slides** from (May, 2008) NH Educational Media Association Conference in Nashua, NH (note... same slides as NHASP conference)

**View presentation slides** from (January, 2008) NH Association of School Principals Conference on Literacy in Concord, NH

**Digital Portfolio PD Sessions** at Local Educational Support Centers in 2007-08

**View presentation slides** from (Feb 2007) NH School Administrators Association (NHSAA) Best Practices Conference - Curriculum, Instruction, & Assessment

**View presentation slides** from (Spring 2006) ICT Info Sessions

**View presentation slides** from (Jan/Feb 2006) ICT Info Sessions

View ICT Questionnaire **numerical results** (PDF)

View ICT Questionnaire **narrative report** (PDF)

Contribute to the process by **completing the ICT Questionnaire**

**List of ICT Sessions at PD Centers - January to July 2006**