

# ePortfolios: Digital Stories of Deep Learning

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## Themes

- Context
  - 21st Century Learning
- Product
  - Electronic Portfolios vs. Assessment Management Systems
  - Assessment for Learning
- Process
  - Reflection
  - Storytelling
- Examples

# Context

Why  
Electronic Portfolios  
Now?

<http://www.21stcenturyskills.org/>



The  
Partnership  
for 21st  
Century  
Skills

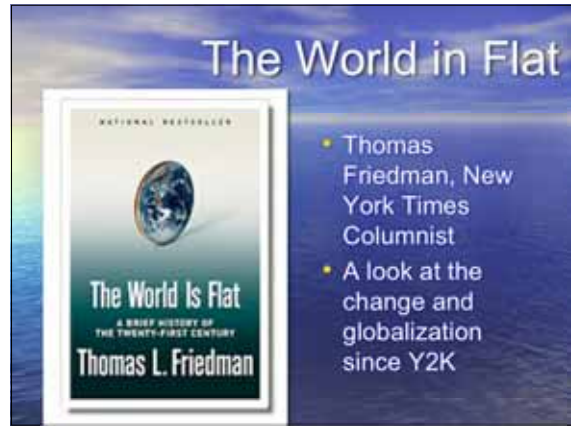
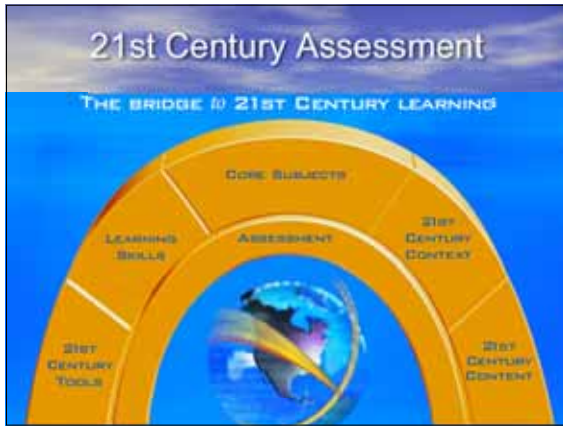
## Education that...

- Connects to students' lives
  - Reduces GAP between how students live and how they learn
- Reflects "How People Learn"
  1. Uses prior knowledge to build new understanding
  2. Able to organize knowledge within conceptual framework
  3. Metacognitive approach, take control of learning, monitor progress, improve achievement

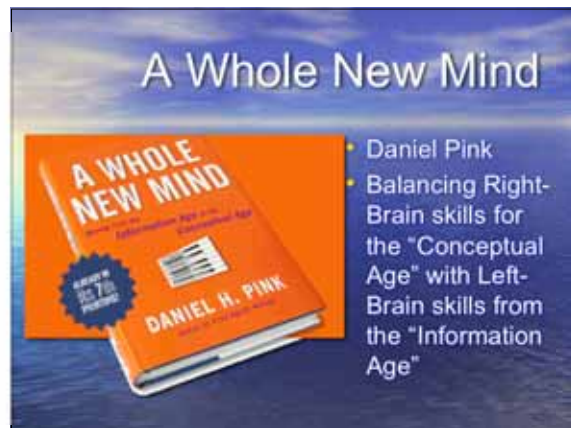
## 21st Century Learning Skills

- Information and Media Literacy Skills
- Communication Skills
- Critical Thinking and Systems Thinking
- Problem Identification, Formulation and Solution
- Creativity and Intellectual Curiosity
- Interpersonal and Collaborative Skills
- Self-Direction
- Accountability and Adaptability
- Social Responsibility

Partnership for 21st Century Skills  
<http://www.21stcenturyskills.org/>



- ## 10 "Flatteners"
- 10 Major political events, innovations, companies
- |                       |  |
|-----------------------|--|
| 1. 11/9/89            | 1. Walls down + Windows up                   |
| 2. 8/9/95             | 2. Netscape went public                      |
| 3. Work Flow Software | 3. Applications talk to each other           |
| 4. Open-Sourcing      | 4. Self-Organizing Collaborative Communities |
| 5. Outsourcing        | 5. Y2K panic + help desks (India)            |
| 6. Offshoring         | 6. Shifting production (Asia)                |
| 7. Supply-Chaining    | 7. Wal-Mart (China)                          |
| 8. Insourcing         | 8. UPS                                       |
| 9. In-forming         | 9. Google, Yahoo, WebSearch                  |
| 10. The Steroids      | 10. Digital, Mobile, Personal, Virtual       |



- ## Causes of shift from LEFT to RIGHT Brain
- Abundance
  - Asia
  - Automation

- ## 6 Essential High-Concept, High Touch Aptitudes
- Dan Pink, *A Whole New Mind*
1. **Design** (not just function) - create objects beautiful, whimsical, emotionally engaging
  2. **Story** (not just argument) - the ability to fashion a compelling narrative
  3. **Symphony** (not just focus) - synthesis--seeing the big picture
  4. **Empathy** (not just logic) - forge relationships - care for others
  5. **Play** (not just seriousness) - laughter, lightheartedness, games, humor
  6. **Meaning** (not just accumulation) - purpose, transcendence, and spiritual fulfillment.

## Context for ePortfolios

- Purpose(s)
- Audience(s)
- Ownership
- Tools
- Literacy Level

# Product

## Electronic

Portfolios  
(Technology Matures)

If we build it, will they use it?

And **HOW** will they use it?

What about the users?

Why would learners want to use an ePortfolio?

### ePortfolio Technology over Time

Storage	Software
<ul style="list-style-type: none"> <li>• 1991: Desktop</li> <li>• 1995: CD-R</li> <li>• 2000: Internet</li> <li>• 2004: DVD-R</li> <li>• 2005: <b>Pocket Tech</b> (PDAs, Flash drives, Phones, iPods)</li> <li>• What's Next?</li> </ul>	<ul style="list-style-type: none"> <li>• Common tools               <ul style="list-style-type: none"> <li>– Office &amp; PDF</li> <li>– HTML Editors</li> </ul> </li> <li>• Customized Systems               <ul style="list-style-type: none"> <li>– Online data bases</li> <li>– Work Flow Management</li> <li>– Assessment Management</li> </ul> </li> <li>• Interoperability (currently in "silos")</li> </ul>

### Levels of ePortfolio Implementation

<ul style="list-style-type: none"> <li>• <b>Working Portfolio</b> <ul style="list-style-type: none"> <li>– The Repository</li> <li>– The Digital Archive</li> <li>– The Artifacts (meta-tagged)</li> <li>– Personal Information</li> <li>– Reflective Journal</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Presentation Portfolio(s)</b> <ul style="list-style-type: none"> <li>– The "Story" or Narrative</li> <li>– Multiple Views (public/private)</li> <li>– Varied Audiences (permissions)</li> <li>– Varied Purposes</li> </ul> </li> </ul>
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### Metaphors!

- Mirror, Map, Sonnet
- C.V. or Multimedia Resume
- Test
- Story
- <http://electronicportfolios.org/metaphors.html>

## Constructed Meaning

"The portfolio is a **laboratory** where students **construct meaning** from their accumulated experience."

(Paulson & Paulson, 1991, p.5)

## Portfolio tells a Story

"A portfolio tells a story. It is the story of knowing. Knowing about things... Knowing oneself... Knowing an audience... Portfolios are students' own stories of what they know, why they believe they know it, and why others should be of the same opinion."

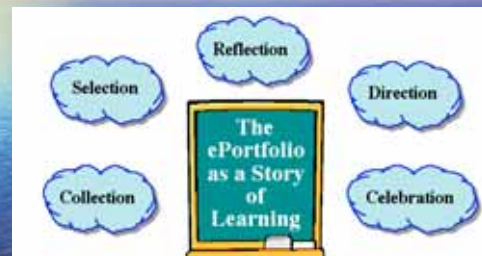
(Paulson & Paulson, 1991, p.2)

## Portfolios tell a Story

"A portfolio is opinion backed by fact... Students prove what they know with samples of their work."

(Paulson & Paulson, 1991, p.2)

## Portfolio Development Process



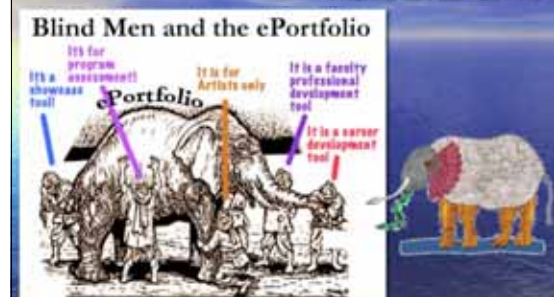
## Portfolio Processes

### Traditional + Technology

- Collecting
- Archiving
- Selecting
- Linking/Thinking
- Reflecting
- Storytelling
- Directing
- Collaborating
- Celebrating
- Publishing

## "The Blind Men and the Elephant"

Thanks to Alan Levine



### Eskimos and "Snow"

- Eskimos having 49 different words for "snow"
- Those who don't live in that environment tend to see it all as the same cold white stuff
- Same goes with "portfolio"

### Purpose & Goals for the portfolio (Determine Content)

- Multiple purposes:
  - Learning/Process
  - Marketing/Showcase
  - Assessment

### A few thoughts about Assessment -- What Type?

- Assessment OF Learning? or
- Assessment FOR Learning?

### Purposes for Assessment

<ul style="list-style-type: none"> <li>• Assessment OF Learning = Summative Assessment</li> <li>• Past-to-Present</li> </ul>	<ul style="list-style-type: none"> <li>• Assessment FOR Learning = Formative (Classroom-based) Assessment</li> <li>• Present-to-Future</li> </ul>
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[www.qca.org.uk](http://www.qca.org.uk)  
ages3-14

Assessment for Learning

### Principles of Assessment FOR Learning

- **Definition:** Assessment for Learning is the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go and how best to get there.

## Crucial Distinction

- **Assessment OF Learning**  
How much have students learned as of a particular point in time?
- **Assessment FOR Learning**  
How can we use assessment to help students learn more?

Rick Stiggins  
Assessment Training Institute

## Overview

	Assessment OF Learning	Assessment FOR Learning
Reason	Check Status	Improve Learning
To Inform	Others about students	Students about themselves
Focus	Standards	Enabling targets

Rick Stiggins  
Assessment Training Institute

	Assessment OF Learning	Assessment FOR Learning
Example	High stakes external assessments, Classroom tests used for grading	Assessments that diagnose needs or help students see themselves improve
Place in time	An event after learning	A process during learning

Rick Stiggins  
Assessment Training Institute

## The essential question

- Can we use assessment to help our students want to learn?

Rick Stiggins  
Assessment Training Institute

## Assessment FOR Learning Strategies

1. Student-friendly targets from the beginning (no surprises, no excuses)
2. Models of strong and weak work
3. Continuous descriptive feedback
4. Teach self-assessment and goal setting
5. Teach one facet of quality at a time
6. Teach focused revision (how to improve their work one facet at a time)
7. Teach self-reflection to track growth

Rick Stiggins  
Assessment Training Institute

## What is your portfolio philosophy?

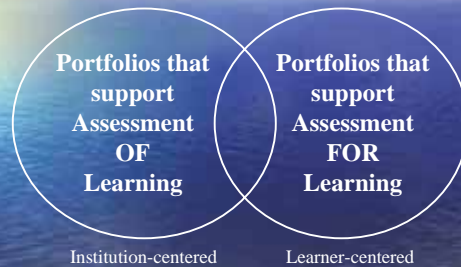
- A standardized **checklist** of skills? (Positivist)
- or
- A reflective **story** of deep learning? (Constructivist)

## Tension between two approaches

- The two paradigms produce portfolio activities that are entirely different.
- The positivist approach puts a premium on the selection of items that reflect **outside standards and interests.**
- The constructivist approach puts a premium on the selection of items that reflect learning **from the student's perspective.**

F. Leon Paulson & Pearl Paulson (1994)  
"Assessing Portfolios Using the Constructivist Paradigm"  
in Fagarty, R. (ed.) (1998) *Student Portfolios*.  
Palatine, IL: Skylight Training & Publishing

## Overlap of Assessment Types\*



## Portfolio Differences

- | Assessment OF Learning                          | Assessment FOR Learning                  |
|---|--|
| • Purpose prescribed                            | • Purpose negotiated                     |
| • Artifacts mandated - scoring for external use | • Artifacts chosen - feedback to learner |
| • Organized by teacher                          | • Organized by learner                   |
| • Summative (Past to present)                   | • Formative (Present to future)          |
| • Institution-centered                          | • Student-centered                       |
| • Requires extrinsic motivation                 | • Intrinsically motivating               |

## Which approach should you take?

- Are you looking for an **electronic portfolio...**
- Or an **assessment management system?**
- What's the difference? Along a Continuum

## How can we address both types of portfolios?

Use three different systems that are digitally linked:

- I. A digital **archive** of a learner's work
- II. An institution-centered **database** to collect faculty-generated assessment data based on tasks and rubrics
- III. A student-centered **electronic portfolio**

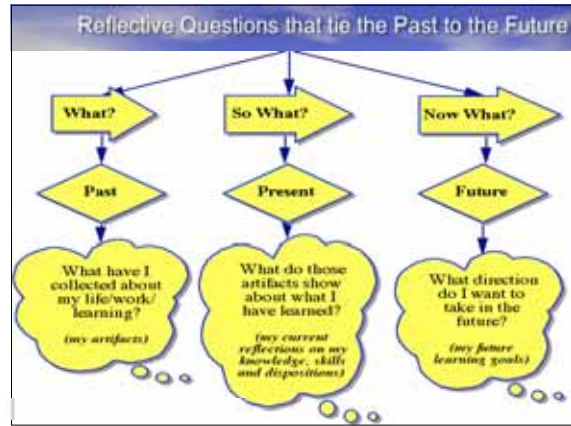
# Process

Electronic

# Portfolios

# Reflection

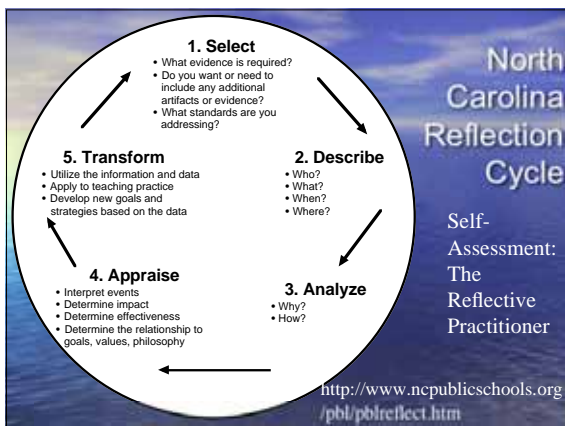
## The "Heart and Soul" of a Portfolio



- ### What is Reflection?
- Major theoretical roots:
    - Dewey
    - Habermas
    - Kolb
    - Schön
  - Dewey: "We do not learn from experience...we learn from reflecting on experience."

### Jennifer Moon on Reflection

- Reflection is a form of mental processing – like a form of thinking – but we use it to fulfil a purpose or to achieve some anticipated outcome. It is applied to relatively complicated or unstructured ideas for which there is not an obvious solution and is largely based on the further processing of knowledge and understanding and possibly emotions that we already possess (based on Moon 1999)




### Resource on Biology of Learning

- Enriching the Practice of Teaching by Exploring the Biology of Learning
- James E. Zull
- Stylus Publishing Co.

## The Learning Cycle

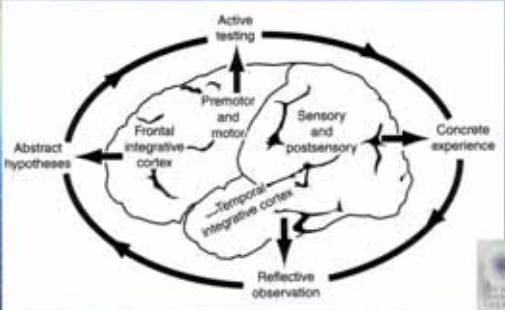

David Kolb from Dewey, Piaget, Lewin

- **Deep Learning** (learning for real comprehension) comes from a sequence of
  - Experience
  - Reflection
  - Abstraction
  - Active testing



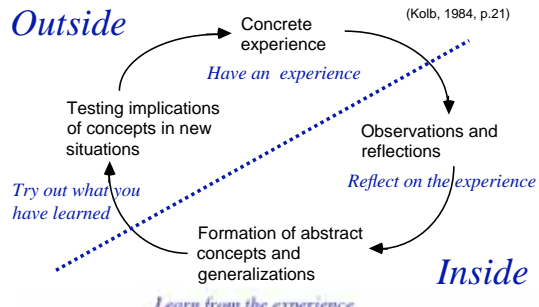
## The Learning Cycle

David Kolb from Dewey, Piaget, Lewin, adapted by Zull

## Experiential Learning Model


Lewin/Kolb with adaptations by Moon and Zull



## Reflection and Emotion

James Zull

- Hard to make meaning of experience unless it engages our emotions. (p.166)
- Reflection: a search for connections
- Sleep researchers: dreams help us make connections. . . we dream about what matters most. (p.168)
- For comprehension we need time. (p.168)



## Moon on Reflection

- One of the defining characteristics of surface learning is that it does not involve reflection (p.123)
- Conditions for Reflection:
  - Time and space
  - Good facilitator
  - Curricular or institutional environment
  - Emotionally supportive environment




## How might an e-portfolio support development of personal knowledge, reflection, and metacognition?



Norman Jackson  
Higher Education Academy, U.K.

## Linked to...



Strategies that promote Intrinsic Motivation to maintain the process for Lifelong Learning

- Online Portfolios
- Digital Storytelling
- Blogs & Wikis
- Games

## Digital Tools for Reflection

### Digital Storytelling and Engagement

### How can you leverage the technologies students own?

- Accessibility from home computers
- Connectivity with cell phones & PDAs (digital images, reflections)
- Video storage or streaming video
- **Podcasting** = audio-only digital stories and blogs

### Helping Students Tell Their Stories

- **COLLECT** more than text documents
  - Pictures
  - Audio
  - Video
- Focus on **REFLECTION** over time
- Help students make **CONNECTIONS**
- Support multimedia presentation formats

### Digital Storytelling Process

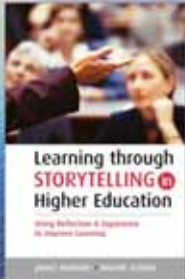
- Learners create a 2-4 minute digital video clip
  - First person narrative [begins with a written script ~ 400 words]
  - Told in their own voice [record script]
  - Illustrated (mostly) by still images
  - Music track to add emotional tone

### "Free" Digital Storytelling Tools

<http://electronicportfolios.org/digistory/tools.html>

Macintosh	Windows
• Audio recording <b>Audacity</b>	• Audio recording <b>Audacity</b>
• Image editing <b>iPhoto, GIMP</b>	• Image editing <b>GIMP</b>
• Video editing <b>iMovie</b>	• Video editing <b>MovieMaker2</b>

## Storytelling as a Theory of Learning



- Two educators from New Zealand - staff developer and health educator
- Relates storytelling to literature on learning and reflection
- Provides stages of storytelling related to reflection

## Storytelling = Narrative Inquiry

*Mattingly in Schön (1991)*

- Aristotle: narrative – natural framework for representing world of action
- Everyday sense-making role of storytelling
- Stories reveal the way ideas look in action
- Narrative provides explanation

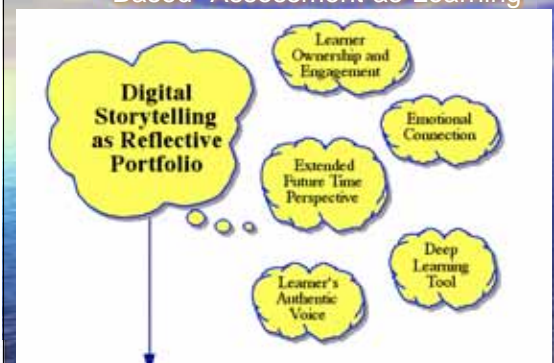


## Digital Stories and e-Portfolios

- highly motivating project-based learning activity
- powerful artifacts in electronic portfolios
- the importance of reflection in e-portfolios
- tools for scaffolding reflection: blogging and digital storytelling
- overview of the literature on reflection and learning
- some new perspectives on storytelling as reflection on experience to improve learning (McDrury & Alterio)
- the role of reflection in brain-based learning (Zull)

Digital Storytelling  
is BOTH...  
HIGH TECH  
and  
HIGH TOUCH

## Constructivist Approach to Project-Based "Assessment-as-Learning"



## Deep Learning

- involves reflection,
- is developmental,
- is integrative,
- is self-directive, and
- is lifelong

Cambridge (2004)

## Voice = Authenticity

- multimedia expands the "voice" in an electronic portfolio (both literally and rhetorically)
- personality of the author is evident
- gives the reflections a uniqueness

## Digital Paper or Digital Story?

Digital paper = text and images only  
Digital story = tell your story **in your own voice**.  
**Multimedia** = audio and video

## What's Your Story?

Richness not possible in print  
Audiences worldwide but most likely small and intimate.

## Digital Story as Legacy

Not just for professional development  
Or skills-based portfolios

## Digital Storytelling Becomes a Lifelong Skill

- Cousin of scrapbooking and genealogy
- Cross-age collaborations
- Children interview elders
- Illustrate with family photos

## Digital Storytelling Becomes a Lifelong Skill

- **Digital Family Stories** from birth to end-of-life
- **Digital Family Stories** help people **reflect** on life transitions
- **Digital Family Stories** preserve multimedia memories as a legacy for future generations

## The REFLECT Initiative

reflect@taskstream.com

<http://electronicportfolios.org/reflect/>

A research project to assess the impact of electronic portfolios on student learning, motivation and engagement in secondary schools

**R**esearching  
**E**lectronic  
**F**olios  
**L**earning  
**E**ngagement  
**C**ollaboration  
**T**echnology



## My Website and my CD



A brief look at the tools  
More in-depth tutorials and examples  
Self-directed tutorials on e-portfolio development and digital storytelling

## My Final Wish...

May all your **electronic portfolios** become dynamic **celebrations** and **stories of deep learning** across the lifespan.

## Dr. Helen Barrett

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- <http://electronicportfolios.org/>