ePortfolios and
their role in Higher Ed:

Digital Stories of Deep Learning

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The REFLECT Initiative
University of Alaska Anchorage (retired)

Themes

- **Context**
  - 21st Century Learning
- **Product (Electronic)**
  - Digital Archive for Life
  - Web 2.0 Pedagogy of Interaction
- **Process (Portfolio)**
  - Multiple Purposes
  - Assessment Management Systems
  - Portfolios and Reflection
  - Digital Storytelling

"Voice matters"

"Building meaning"
"Building personal knowledge"

Context

Why
Electronic Portfolios
Now?

http://www.21stcenturyskills.org/

The Partnership for 21st Century Skills

21st Century Assessment

6 Key Elements of 21st Century Learning

1. Emphasize core subjects
2. Emphasize learning skills
3. Use 21st century tools to develop learning skills
4. Teach and learn in a 21st century context
5. Teach and learn 21st century content
6. Use 21st century assessments that measure 21st century skills

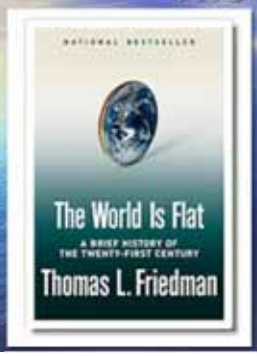
Partnership for 21st Century Skills
http://www.21stcenturyskills.org/

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/

The World in Flat



- Thomas Friedman, New York Times Columnist
- A look at the change and **globalization** since Y2K

10 "Flatteners"

10 Major political events, innovations, companies

1. 11/9/89
2. 8/9/95
3. Work Flow Software
4. Uploading
5. Outsourcing
6. Offshoring
7. Supply-Chaining
8. Insourcing
9. In-forming
10. The Steroids

1. Walls down + Windows up
2. Netscape went public
3. Applications talk to each other
4. Online Communities [Web 2.0]: Open Source, Blogging, Wikipedia [social networks]
5. Y2K panic + help desks (India)
6. Shifting production (Asia)
7. Wal-Mart (China)
8. UPS
9. Google, Yahoo, WebSearch
10. Digital, Mobile, Personal, Virtual

Friedman, 2006

Skills for jobs in a flat world "in the new middle"

- Collaborator
- Leverager
- Adapter
- Explainer
- Synthesizer
- Model builder
- Localizer
- Personalizer
- Think across disciplines
- Able to tell stories
- Build things with intelligence in them
- Create networks
- Aggregate pieces horizontally
- Creativity

Friedman, 2006

The Right Stuff - Learning in a Flat World

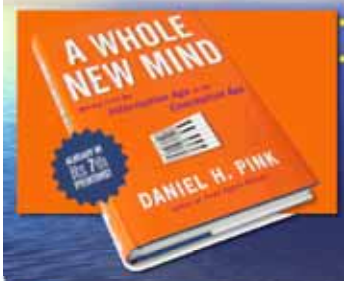
"**How** we educate our children may prove to be more important than **how much**."

Abilities for a flat world:

1. Learn how to learn
2. CQ (curiosity) + PQ (passion) > IQ
3. People Skills
4. Right Brain Stuff

Friedman, 2006

A Whole New Mind



- Daniel Pink
- Balancing Right-Brain skills for the "Conceptual Age" with Left-Brain skills from the "Information Age"

Causes of shift from LEFT to RIGHT Brain

- Abundance
- Asia
- Automation

Pink, 2004

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?

Is there really ONE portfolio for life?

ePortfolio Technology over Time

Storage

- 1991: Desktop
- 1995: CD-R
- 2000: Internet
- 2005: DVD-R
- 2006: **Pocket Tech** (PDAs, Flash drives, Phones, iPods)
- What's Next?

Software

- Common tools
  - Office & PDF
  - HTML Editors
- Customized Systems
  - Online data bases
  - Work Flow Management
  - Assessment Management
- Interoperability (currently in "silos")

Levels of ePortfolio Implementation

- **Working Portfolio**
  - The Repository
  - The Digital Archive
  - The Artifacts (meta-tagged)
  - Personal Information
  - Reflective Journal
- **Presentation Portfolio(s)**
  - The "Story" or Narrative
  - Multiple Views (public/private)
  - Varied Audiences (permissions)
  - Varied Purposes

Metaphors!

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

A question to ponder

- What could happen if every citizen was issued personal web server space that they would own for a lifetime?

Educause Quarterly 2004

- "Beyond the Electronic Portfolio: A Lifetime Personal Web Space" [LPWS]
  - Ellen R. Cohn and Bernard J. Hibbitts (University of Pittsburg)
- "Rather than limit people to the e-portfolio model, why not develop a model providing a personal Web space for everyone, for their lifetimes and beyond?"

MEMEX

- "A memex is a device in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory."
  – Vannevar Bush (1945) "As We May Think"

LPWS

- organized more like our brains than our file cabinets
- available anywhere, any time
- universally accessible to everyone, any ability, even the homeless
- can survive as an historical record of a person's body of work

Cohn & Hibbitts (2004)

Benefits of LPWS

- Educational Continuity: Less Knowledge Left Behind
- A Convenient One-Stop Shop
  - Structured according to the user's unique concept map and learning style, not by predetermined institutional or commercial templates
  - Crosses institution & sector boundaries
- Community-Building
  - link individuals to larger communities (e.g. ELGG, Facebook)

Cohn & Hibbitts (2004)

Digital Archive for Life (DAL)

- space to store raw materials for e-portfolios
- archives of family records, genealogy and digital stories, autobiographies, child development data
- evidence of personal and professional accomplishments, and all kinds of personal information
- Personal archive/content management system

Memories Lost

- Physical/Analog Documents
  - Hurricane Katrina
  - Floods, Earthquakes, Fire
- Virtual/Digital Documents
  - Pervasive use of digital cameras
  - Massive hard drive crash
  - a "hole in history"
- Ourmedia.org & archiving Internet

Software capabilities for Formative Assessment

- allow **interaction** between teachers and students around learning activities and products:
  - **Students**: create, store artifacts and reflections and organize their work, preferably with hyperlinks
  - **Teachers**: review the work and provide feedback in narrative form (based on a rubric, if available)

Today's Tool Choices

Poor Internet Access?

- **Microsoft Office**
  - Word
  - Excel
  - PowerPoint
- **Other Options:**
  Apple iLife06
  - iDVD, iWeb
- Web Page Editors (DreamWeaver, Front Page)

These tools do not require Internet access to **create** electronic portfolios.

Good Internet Access?

- **TaskStream, iWebFolio** or any commercial fee-based system
- OSP & Sakai
- **Web 2.0 tools**

These tools require only a browser and good Internet access to **create** electronic portfolios because they are Application Services Providers (ASP) - the software is on the company server.

Web 1.0 vs. Web 2.0

DoubleClick	Google AdSense
Ofoto	Flickr
Akamai	BitTorrent
mp3.com	Napster
Britannica Online	Wikipedia
personal websites	blogging
domain name speculation	search engine optimization
page views	cost per click
screen scraping	web services
publishing	participation
content management systems	wikis
directories (taxonomy)	tagging ("folksonomy")
stickiness	syndication
Netscape	Google

O'Reilly, T. (2005)

Web 2.0 Technologies

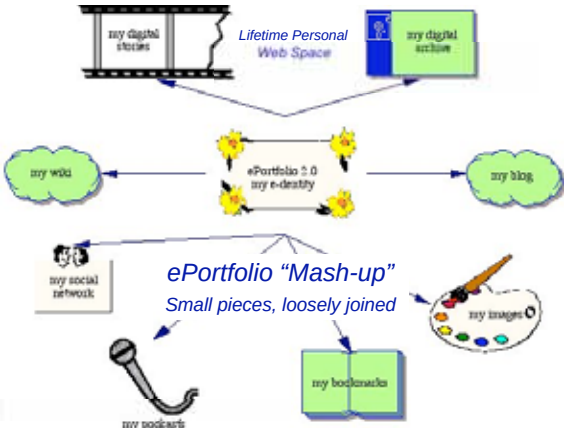
Advantages

- Free, often open-source tools on the WWW
- "Me Publishing
- Shared Resources
- Shared Writing
- Media Creation Online

Disadvantages

- Requires higher technology competency
- Mostly not secure websites

"Small Pieces, Loosely Joined"



"Me" Publishing

- Blogs
  - Blogger, WordPress, Elgg
- Social Networking
  - MySpace, FaceBook, Elgg
- Content Management Systems
  - Plone, Drupal

Shared resources

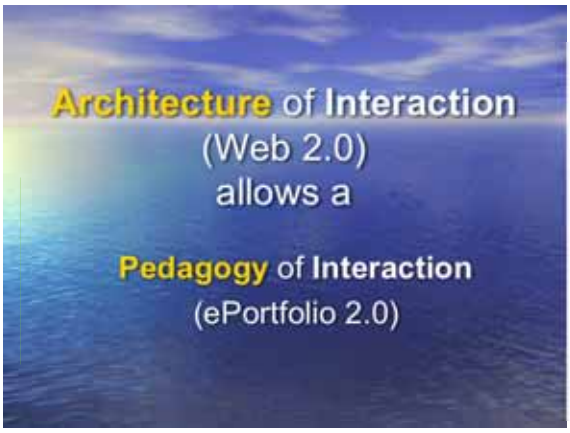
- Photo Sharing
  - Flickr, PhotoBucket
- Media Sharing
  - vimeo.com, ourmedia.org, youtube.com
- Bookmarks
  - BackFlip.com, iKeepBookmarks.com, del.icio.us

Shared Writing

- **Wikis**
  - **WikiSpaces** (hosted site with free subscriptions for teachers)
  - **MediaWiki** (Open Source - used by Wikipedia)
- **Word Processors**
  - **Writely** (GoogleDocs)
  - **Zoho** tools
  - Goffice
  - ThinkFree

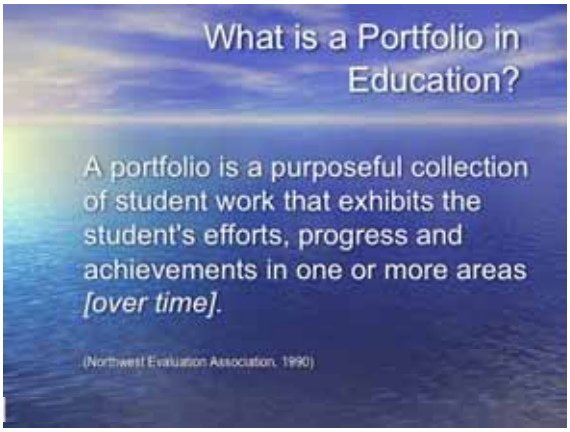
Media Creation Online

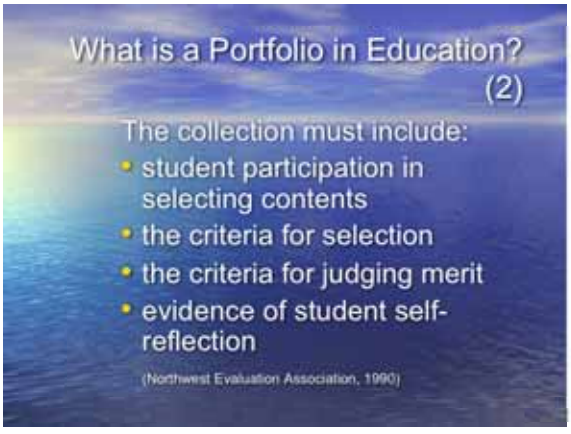
- **Video**
  - –BubbleShare, JumpCut, PrimaryAccess
- **Podcasts** (audio)
  - –odeo, podomatic


Architecture of Interaction
(Web 2.0)
allows a
Pedagogy of Interaction
(ePortfolio 2.0)


Emerging Models for Portfolios
• mPortfolios
• Mobility
• iPortfolios
• Interactivity
• Digital Stories
• Voice


Process
Electronic
Portfolios


What is a Portfolio in Education?
A portfolio is a purposeful collection of student work that exhibits the student's efforts, progress and achievements in one or more areas [over time].
(Northwest Evaluation Association, 1990)


What is a Portfolio in Education? (2)
The collection must include:
• student participation in selecting contents
• the criteria for selection
• the criteria for judging merit
• evidence of student self-reflection
(Northwest Evaluation Association, 1990)


Portfolio Processes
Traditional
+ Technology
• Collecting
• Archiving
• Selecting
• Linking/Thinking
• Reflecting
• Storytelling
• Directing
• Collaborating
• Celebrating
• Publishing

3 General Components of the Portfolio Development Process

- **Content**
  - Learner's artifacts and reflections
- **Purpose**
  - Reason for creating the portfolio including learning professional development, assessment, employment
- **Process**
  - Tools used
  - Sequence of activities
  - Rules established by educational institution
  - Reflections a learner constructs in developing the portfolio
  - Evaluation criteria
  - Collaboration or conversations about the portfolio

"The Blind Men and the Elephant"

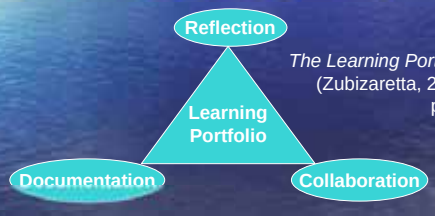
Thanks to Alan Levine

Purpose & Goals for the portfolio (Determine Content)

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

Learning Portfolios

- *"know thyself" = a lifetime of investigation*
- *self-knowledge as outcome of learning*



The Learning Portfolio (Zubizaretta, 2004, p.20)

Learning Portfolios

- Support reflection which is central to learning
- Reflections
  - The Heart and Soul of the Portfolio
- An electronic portfolio without reflection is just a
  - Digital scrapbook
  - Fancy electronic resume
  - Multimedia Presentation
  - Personal web site

Showcase Portfolios

- Marketing
- Employment
- Tell your story
- A primary motivator for many portfolio developers

Assessment Portfolios

- A major movement in Teacher Education in U.S.
- A major new commercial market
- A primary motivator for organizations

Purposes for Assessment

Assessment **OF** Learning = Summative Assessment

Assessment **FOR** Learning = Formative (Classroom-based) Assessment

Past → Present → Future

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

www.qca.org.uk

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.

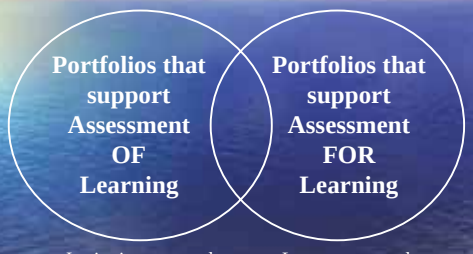
What is your portfolio philosophy?

- A standardized **checklist** of skills? (Positivist)

or

- A reflective **story** of deep learning? (Constructivist)

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?

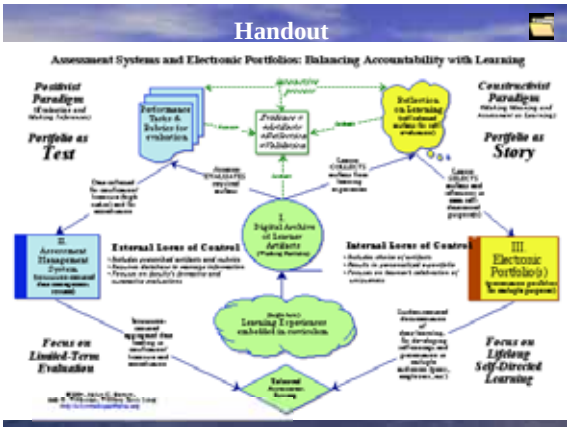
- Are you looking for an **electronic portfolio…**
- Or an **assessment management system?**
- What's the difference? Along a Continuum

How can we address both types of portfolios?

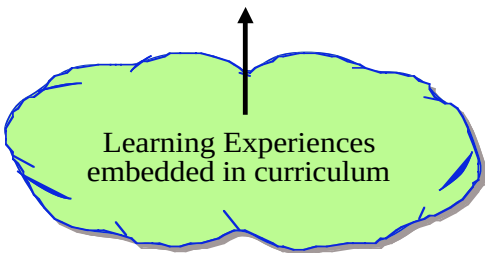
Use three different systems that are digitally linked:

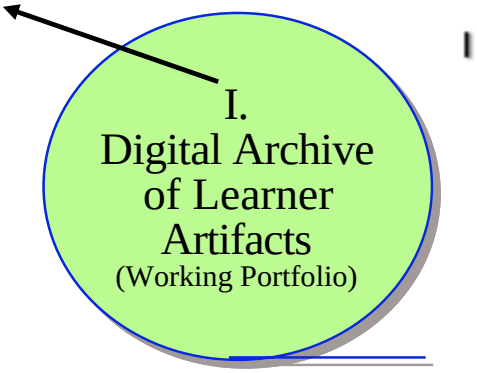
I. A digital **archive** of a learner's work
II. An institution-centered **database** to collect faculty-generated assessment data based on tasks and rubrics [i.e., Project Caliper]
III. A student-centered **electronic portfolio**

Handout



Begin Here

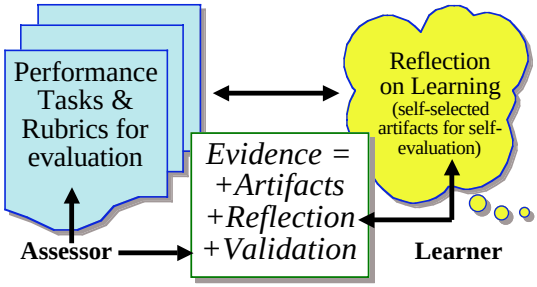


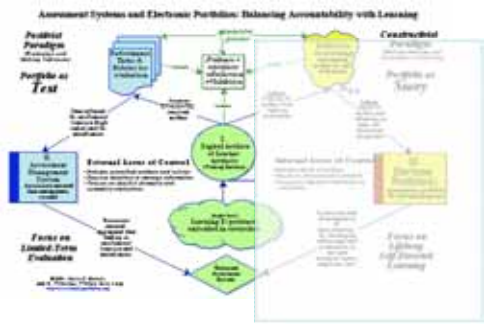


Interactive Process

Evidence =
+Artifacts
+Reflection
+Validation

Interactive Process

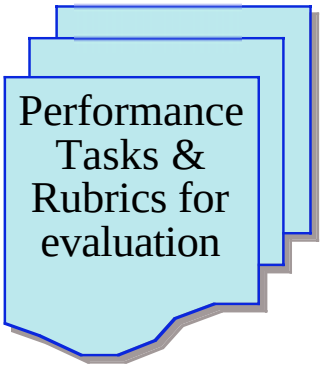




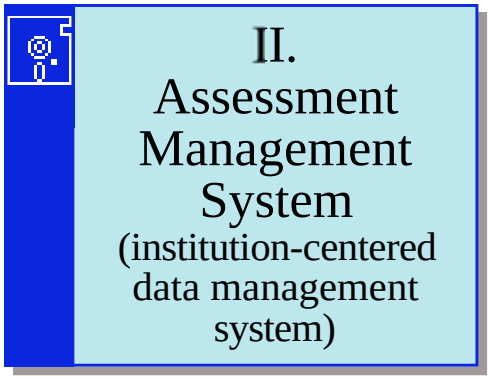
Positivist Paradigm
(Evaluation and Making Inferences)

Portfolio as Test

Assessor EVALUATES <u>required</u> artifacts



Data collected for certification/ licensure (high stakes) and for accreditation



Resulting in…

Institution-centered aggregated data leading to certification/licensure and accreditation

Focus on Limited-Term Evaluation

External Locus of Control

- ***Includes prescribed artifacts and rubrics***
- ***Requires database to manage information***
- ***Focuses on faculty's formative and summative evaluations***

I.
Digital Archive of Learner Artifacts
(Working Portfolio)

Constructivist Paradigm
(Making Meaning and Assessment as Learning)

Portfolio as Story

Learner COLLECTS artifacts from learning experiences

Reflection on Learning
(self-selected artifacts for self-evaluation)

Learner SELECTS artifacts and reflections to meet self-determined purpose(s)

III. Electronic Portfolio(s)

(presentation portfolios for multiple purposes)

Resulting in…

Student-centered documentation of deep learning,

for developing self-concept and presentation to multiple audiences (peers, employers, etc.)

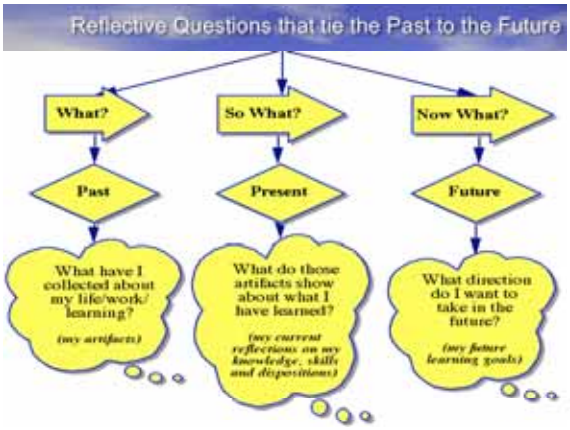
Focus on Lifelong Self-Directed Learning

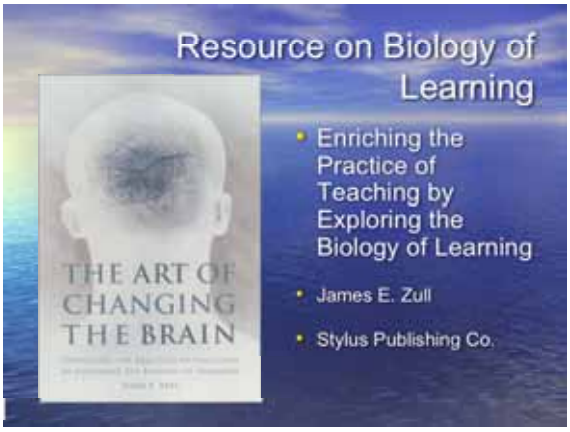
Internal Locus of Control

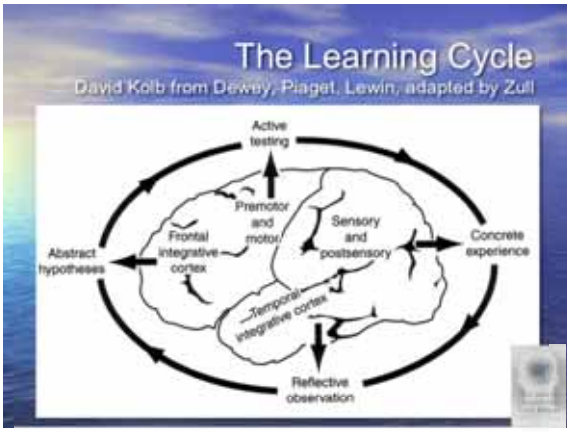
- *Includes choice of artifacts*
- *Results in personalized e-portfolio*
- *Focuses on learner's celebration of uniqueness*

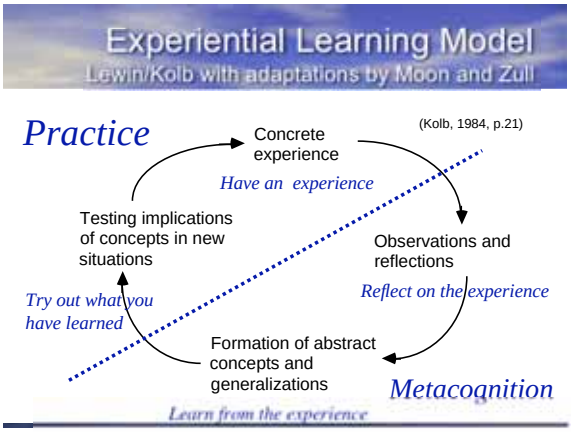
Both approaches result in a:

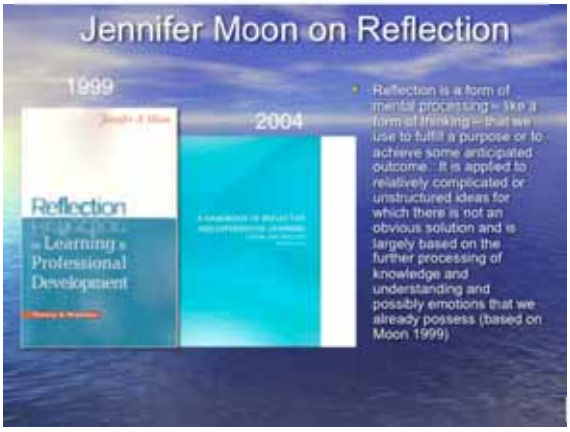
Balanced Assessment System

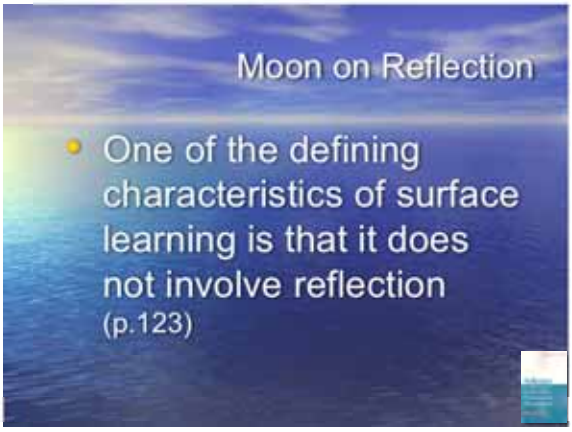

Reflective Questions that tie the Past to the Future
What?
So What?
Now What?
Past
Present
Future
What have I collected about my life/work/ learning?
(my artifacts)
What do those artifacts show about what I have learned?
(my current reflections on my knowledge, skills and dispositions)
What direction do I want to take in the future?
(my future learning goals)


Resource on Biology of Learning
THE ART OF CHANGING THE BRAIN
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, adapted by Zull
Active testing
Premotor and motor
Sensory and posterior
Concrete experience
Abstract hypotheses
Frontal integrative cortex
Temporal integrative cortex
Reflective observation


Experiential Learning Model
Lewin/Kolb with adaptations by Moon and Zull
Practice
(Kolb, 1984, p.21)
Concrete experience
Have an experience
Testing implications of concepts in new situations
Observations and reflections
Try out what you have learned
Reflect on the experience
Formation of abstract concepts and generalizations
Metacognition
Learn from the experience


Jennifer Moon on Reflection
1999
2004
Reflection
Learning
Professional Development
Reflection is a form of mental processing – like a form of thinking – that we use 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)


Moon on Reflection
One of the defining characteristics of surface learning is that it does not involve reflection
(p.123)

Deep Learning

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

Cambridge (2004)

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)

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 Tools for Reflection

Digital Storytelling and Engagement

Linked to…

Online Portfolios

Digital Storytelling

Blogs & Wikis

Games

How can you leverage the technologies students own?

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

"every day-ness"

How can we make ePortfolio development a natural process integrated into everyday life?

Lifelong and **Life Wide** Learning

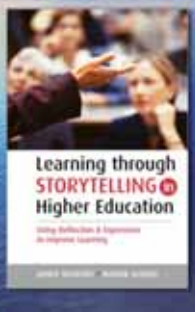
Social Learning

How can we integrate ePortfolios with what we know about social learning and interactivity?

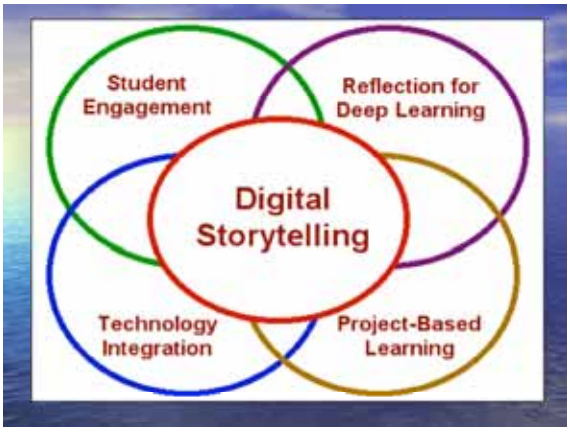
Digital Storytelling Process

- 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

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



Digital Storytelling is BOTH…

HIGH TECH

and

HIGH TOUCH

Digital stories

- Student Teacher stories
  - Chevak
  - Coming Full Circle
- My story

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

Digital Stories and e-Portfolios

- highly motivating project-based learning activity
- powerful artifacts in electronic portfolios
- Importance of reflection in e-portfolios
- Tools for scaffolding reflection: blogging and digital storytelling
- Storytelling: reflection on experience to improve learning (McDrury & Alterio)
- the role of reflection in brain-based learning (Zull)

A Dozen Purposes for DS in EP

- **Introduction of Self**
  - Voice & Personality
  - Legacy
  - Biography
  - Memoir
- **Artifacts**
  - Evidence of Collaboration
  - Documentary
  - Record of Experience
  - Oral Language
- **Reflection**
  - Transition
  - Decision
  - Benchmarking Development
  - Change over Time

What's Your Story?

Richness not possible in print

Audiences worldwide but most likely small and intimate.


My Final Wish…
May all your
electronic portfolios
become dynamic
celebrations and stories
of deep learning
across the lifespan.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