



## *Setting the Stage*

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ISTE's Community and Assessment in PT3  
Catalyst Grant  
University of Alaska Anchorage

## *ISTE's 2001 PT3 Catalyst Grant*

- **Objective # 5:** Conduct at least one annual national Development Symposium on Using Technology to Support Assessment in Teacher Education in conjunction with a national or international technology conference such as SITE, ED-MEDIA or NECC

These Slides will be posted to:  
<http://electronicportfolios.org/pt3/>

## *NCLB & NCATE 2000 = New Assessment Requirements*

- **No Child Left Behind Legislation (NCLB) and NCATE 2000 require a Culture of Evidence**
- E2T2: how to effectively assess teacher and student technology competency and the impact on student learning.
- Assessing NETS-T and NETS-S

## *ISTE's 2<sup>nd</sup> Annual Assessment and Technology Forum*

- Focus on standards-based assessment
- We will examine:
  - 1) strategies for using technology to promote data-driven decision-making
  - 2) methods for assessing achievement of technology standards and integration into the curriculum

## *Participants will:*

- learn about using both traditional and alternative assessment to provide authentic evidence of student learning and teacher integration of technology, within the current emphasis on scientifically-based research

## *Participants will...*

- gain a better understanding of the diverse tools and strategies (i.e., e-portfolios, performance assessments, surveys and classroom observation instruments) that produce evidence of learning to support the culture of evidence required by both NCATE and NCLB

### *Participants will...*

- receive a copy of ISTE's new book, *NETS for Teachers: Resources for Assessment*



### *Bridging traditional and alternative assessment*

- to provide authentic evidence of student learning or teacher integration of technology, within the current emphasis of scientifically-based research.
- present multiple perspectives on technology, showcasing various ways to support standards based assessment using technology

### *K-12 Teachers*

- discover how to provide performance-based evidence of effectively integrating technology into instruction and assessment

### *K-12 Administrators*

- will gain a better understanding of how to assess teachers' integration of technology

### *University Faculty*

- will increase their knowledge of tools and methods to use in assessing teacher candidates' use and integration of technology
- producing performance-based evidence of successful teaching as well as student outcomes

### *ALL participants*

- Will have a hands-on experience using technology to facilitate the assessment process
- Will model collecting performance-based data required in this new accountability environment

## *U. S. Department of Education*

- Dr. Helen Soulé's Presentation

## *Balanced Assessment*



## *Types of Assessment*

- Kay Burke(1999) and Robin Fogarty (1998) advocate a balanced approach to assessment
- Focus on three components:
  - Traditional Assessment
  - Performance Assessment
  - Portfolio Assessment

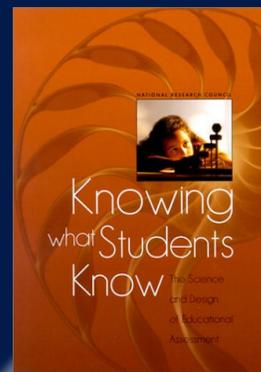
## *Resource on Assessment*

- The Science and Design of Educational Assessment

- Published by National Academies Press

- Edited by James Pellegrino, Naomi Chudowsky and Robert Glaser

- <http://www.nap.edu>



## *Key Points*

“Educational Assessment seeks to determine how well students are learning and is an integrated part of the quest for improved education. It provides feedback to students, educators, parents, policy makers, and the public about the effectiveness of educational services.” (p.1)



## *Key Points*

- Advances in cognitive sciences
  - Broadened concept of what is important to assess
- Advances in measurement sciences
  - Expanded capability to interpret more complex forms of evidence



### Key Points

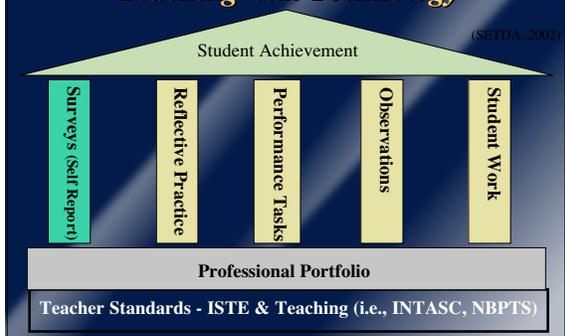
- One type of assessment does not fit all
- a single assessment is often used for multiple purposes
- "...the more purposes a single assessment aims to serve, the more each purpose will be compromised." p.2



### Effective Teaching with Technology Assessment

Models of Successful Assessment  
Developed at the State Educational Technology Directors Association (SETDA)  
National Leadership Institute (NLI) on Evaluation  
December 2002

### Framework for Assessing Effective Teaching with Technology



### Framework for Assessing Effective Teaching with Technology



### Assessment ...

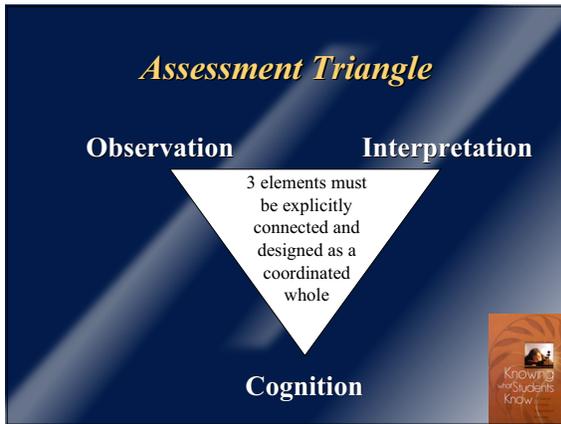
- Is always a process of reasoning from evidence
- Is imprecise to some degree
- Results are only estimates of what a person knows and can do



### Every Assessment Rests on Three Pillars

- Model of how students represent knowledge and develop competence in a content domain
- Tasks or situations that allow one to observe students' performance
- An interpretation method for drawing inferences from performance evidence





Expanded Edition

### How People Learn

Brain,  
Mind,  
Experience,  
and  
School

### Resource on Learning & Cognition

- Edited by John Bransford, Ann Brown, Rodney Cocking, National Research Council
- Published by National Academy Press
- <http://www.nap.edu>

NATIONAL RESEARCH COUNCIL

Knowing what Students Know

### How People Learn (1999)

- Technology can be used to help teachers understand student thinking and provide meaningful, timely feedback

Technology and Assessment Thinking Ahead

How People Learn

### Three Dimensions of Educational Assessment

Means & Haertel

Purpose	Focus	Scope of Application
Improving learning	Learning act	Nation
Informing instruction	Instructional module	State
Placement	Course	Project/program
Promotion	Competencies or achievement	District
Accountability	Technology and Assessment Thinking Ahead	School/grade
Research & evaluation		Class
Grading		Individual

*We need a richer and more coherent set of assessment practices*

Knowing what Students Know

### Assessment Design Principles

- Assessment design should always be...
  - Based on a model of student learning
  - Well designed and tested
  - Clear sense of the inferences about student competence
  - For the particular context of use

Knowing what Students Know

## Implications for assessment practice in the classroom

- Integral part of instruction
- Information about qualities of work
- Students understand learning goals and landmark performances
- Based on cognitive science



## Think Through Assessment as a System

- Needs to be
  - Comprehensive
  - Coherent
  - Continuous
- Shift emphasis back into classroom where learning occurs



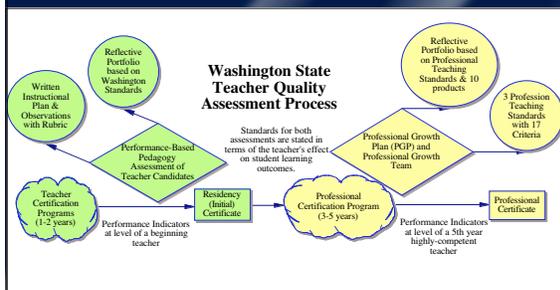
## Assessment as Celebration

- Celebrating the successes of what we've learned through assessment
- Done through documentation
- Students take charge of their own learning

## A Focus on Student Learning in new Teaching Standards

- An excerpt from the Washington state Professional Certification Standards

## Washington TQ Assessment



## Students use Reflection and Goal Setting

- Students review records of their learning progress to identify specific needs for growth.
- Students regularly use their work to examine and reflect on their achievement of content goals.
- They set individual goals and outline the steps required to reach those goals.
- Students keep an articulation of their reflection with the collection of their work.
- Students are regularly guided through strategies to monitor, evaluate, and self-regulate their process of learning and express it verbally and in writing.
- Students can articulate what worked, what did not, and what they need to do differently next time.

### *Questions to ask...*

- How do you know?
- What evidence do you have?
- Where is the data?

### *How does Technology fit?*

- Everywhere!
- Ease the process of:
  - Data Collection
  - Organization
  - Interpretation
  - Presentation

### *Our Assessment & Technology Forum Program*

- Gallery Walk this morning
  - Look at examples of using technology to support assessment
  - Collect data using Palms that will be “beamed” to base stations
- Breakout Sessions this afternoon
  - Opportunities to discuss issues in more depth
  - Give us feedback on the sessions
- Closing Session this afternoon
  - Sharing from Breakout Sessions
  - Final feedback

### *Assessment should...*

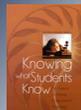
- Be based on modern knowledge of cognition and its measurement
- Be integrated with curriculum and instruction
- Inform as well as improve student achievement

“The promise of these new kinds of assessments remains largely unfulfilled, but technology should substantially change this situation.” p.261



### *New Information Technologies...*

- Can advance the design of assessments:
  - Bring greater efficiency
  - Timeliness
  - Immediately adapt items based on performance
  - Analyze, score, report assessment data
  - Allow learners to be assessed at different times and in distant locations
  - Enliven assessment tasks with multimedia
  - Add interactivity to the assessment task



### *Grant Wiggins*

- The move toward more authentic assessment is under way and will accelerate



## *The Bottom Line:*

- Improved Student Performance
- Improved Student Attitude toward Learning

## *An Authentic Test*

- A test the student wants to take
- A challenge worth taking from the students' point of view

## *A significant contribution of Technology...*

- To design systems for implementing sophisticated classroom-based formative assessment
- Assessment embedded in instruction
- Holds great promise for enhancing educational assessment at multiple levels of practice
- Raises issues of utility, practicality, cost, and privacy.



## *Technology to help assess problem solving*

“Technology is making it possible to assess a much wider range of important cognitive competencies than was previously possible. Computer-enhanced assessments can aid in the assessment of problem-solving skills by presenting complex, realistic, open-ended problems and simultaneously collecting evidence about how people go about solving them.” p. 266

*U. Minn., VT, IMMEX, Vanderbilt*



## *Technology-Enhanced Learning Environments with embedded assessment*

- Integrates formative and summative assessment
- Gives instant feedback to students
- Disseminate course materials
- Maintain individual student records

*TI Navigator*

**A Resource on K-12 Portfolios**

- By Evangeline Harris Stefanakis
- Published by Heinemann
- Includes a CD-ROM with examples of student portfolios

EVANGELINE HARRIS STEFANAKIS

**Assessment for Learning Continuum**

Stefanakis, Evangeline (2002) *Multiple Intelligences and Portfolios*. Portsmouth: Heinemann, p. 136

**Assessment for Learning Continuum - Enhanced**

Stefanakis, Evangeline (2002) *Multiple Intelligences and Portfolios*. Portsmouth: Heinemann, p. 136

**Technology to Support: Self-Assessment Individual or Organization**

- Weblogs
- Reflective journals
- Online discussions
- Profiler
- Other Self-report surveys

*iAssessment, Co-nect + 1 breakout session*

**Technology to Support: Rubric Development**

- RubiStar  
<http://rubistar.4teachers.org/>
- TaskStream  
<http://www.taskstream.com>

**Technology to Support: Portfolio Development**

- Generic Tools
- Customized Systems

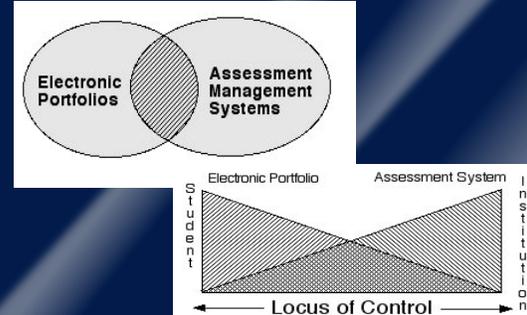
*California Lutheran, University of Florida, Johns Hopkins, MNSCU, OSPI, U. Missouri + 3 breakout sessions*

## Assessment Management Systems or e-Portfolios?

- **Electronic Portfolios**
  - Student-centered
  - Diversity of tools and storage media
  - Requires and demonstrates higher technology skills
  - Multiple purposes
- **Online Assessment Management Systems**
  - Institution-centered
  - Primarily online database
  - Requires and demonstrates lower technology skills
  - Single purpose

More details in Barrett/Carney Breakout session

## Electronic Portfolio or Assessment Management System?



## Technology to Support: Performance Assessment

- Creating rich problem-solving environments
- Assessed by computer or human observers
- Video clips to document performance
- Online Writing Assessment

*IMMEX, IC3, + 2 breakout sessions*

## Technology to Support: Observation Assessment

- Support observation of students or teachers
- Learner Profile
- PDAs

*Wireless Generation, Johns Hopkins Teacher Compass, + 2 breakout sessions + use of Palms*

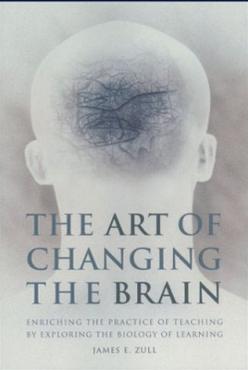
## Technology to Support: Testing

- Online traditional testing (multiple choice)
- Online performance assessment (simulations)

*Riverside Publishing, IC3, Cisco + 1 breakout session*

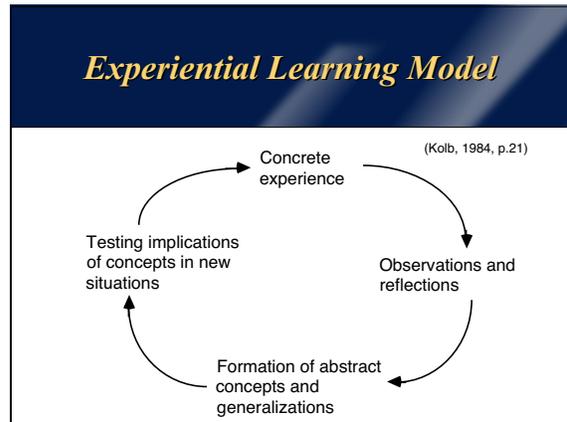
## One final thought about the day ahead...

- Assessment for Learning
- Learning for Assessment
- Your active engagement is critical!



**Resource on  
Biology of  
Learning**

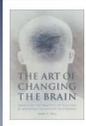
- Enriching the Practice of Teaching by Exploring the Biology of Learning
- James E. Zull
- Stylus Publishing Co.



### 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
- Zull: the learning cycle arises naturally from the structure of the brain (p.19)



### Dr. Helen Barrett

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- [hbarrett@iste.org](mailto:hbarrett@iste.org)
- <http://electronicportfolios.org/pt3/>

## Breakout Sessions

### Self-Report Assessment Instruments

- Doug Daniell, Research and Evaluation, ISTE

***Aligning ISTE NETS with  
Your States' Standards and  
University Courses: Florida  
Accomplished Practices and  
NTSC -***

- Gail Ring, University of Florida
- Helen Padgett, Arizona State University West

***Using Digital Portfolios for  
School Change\****

- David Niguidula, IDEAS Consulting
- Hilarie Davis, Technology for Learning Consortium

Note change in title from agenda--the yellow sheet is correct

***E-Portfolios: Decisions and  
Dilemmas***

- Helen Barrett, University of Alaska Anchorage
- Joanne Carney, Western Washington University

***PDA's and Bluefish -  
Analyzing the Data -***

- Stacey Warner, Rockman, et al
- Randy Hansen, Johns Hopkins University
- James Fisher, Bluefish

***Creating Valid Performance  
Assessments***

- Liz Neal, Maryland
- Chris Mattia, St. Mary's College of Maryland
- Amy Keefe, St. Mary's College of Maryland
- Yi-Ping Huang, University of Maryland, Baltimore County

***Classroom Observation  
Assessment Tools***

- Doug Daniell, ISTE
- Helen Padgett, ASU West

***Getting Their Hands Dirty:  
Moving Electronic Portfolios  
from Pre-Service Education  
to the K–12 Classroom***

- Mike Searson, Kean University

***NETS Resources for  
Assessment: In-depth Look***

- Peggy Kelly, California State University San Marcos
- Helen Barrett, University of Alaska Anchorage

