Electronic Portfolio Development

- Combining Portfolio Development and Multimedia Development into:
- 5 Stages of Electronic Portfolio Development
  - » Defining the Portfolio Context & Goals
  - » The Working Portfolio
  - » The Reflective Portfolio
  - » The Connected Portfolio
  - » The Presentation Portfolio

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Assumption

As we move to more standards-based teacher performance assessment, we need new tools to record and organize evidence of successful teaching, for both practicing professionals and student teachers.

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What is a Portfolio?

- A purposeful collection of students' work that illustrates efforts, progress, and achievement (NW Eval Assoc.)

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Why use Portfolios?

- provides a richer picture of student performance than can be gained from more traditional, objective forms of assessment

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Traditional portfolios

- traditional standards-based portfolios are 3-ring notebooks, organized with dividers and sections for documents demonstrating each standard (Campbell, et.al., 1997)

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What is a portfolio?

- a purposeful collection of student work that demonstrates effort, progress and achievement (based on standards)
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  (Campbell, et.al., 1997)

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What is an Electronic Portfolio?

- uses electronic technologies
- which allows students/teachers to collect and organize portfolio artifacts in many media types (audio, video, graphics, text)
- using **hypertext links** to organize the material
- connecting evidence to appropriate standards *(in a standards-based portfolio)*

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Electronic or Digital Portfolio?

- An Electronic Portfolio contains artifacts that may be in analog form, such as a video tape, or may be in computer-readable form

- A Digital Portfolio contains artifacts that have been transformed into computer-readable form (digitized/scanned/input)

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What is a teaching portfolio?

"A teaching portfolio is the structured, documentary history of a set of coached or mentored acts of teaching, substantiated by samples of student portfolios, and fully realized only through reflective writing, deliberation, and conversation." (Shulman, 1998)

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Professional Portfolios for Teachers
Wilcox & Tomei (1999) Christopher-Gordon Publishers, Inc.

…extends the possibilities for portfolios in education by going beyond assessment, learning, and professional development to the use of the portfolio as
a living history of a teaching-learning life. (p.5)

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Dr. Mary Diez' Metaphors
(Alverno College)

The Portfolio as:

- Mirror — Captures the reflective nature of the portfolio. Allows students to "see" themselves over time
- Map — Creating a plan and setting goals
- Sonnet — Provides a framework, but the contents can showcase creativity and diversity

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Dr. Mary Diez' Metaphors
(Alverno College)

The portfolio as

Mirror

Captures the reflective nature of the portfolio
Allows students to "see" themselves over time

Diez, Mary (1994) "The Portfolio: Sonnet, Mirror and Map" in Burke, Kay, ed. (1996) *Professional Portfolios* Skylight Training & Publishing   12

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(Alverno College)

The portfolio as

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Financial or Professional Portfolio?

- A **financial portfolio** documents the accumulation of **fiscal capital** or **monetary** assets

- A **professional portfolio** documents the development of **human capital** or **intellectual** assets

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Campbell, Melenyzer, Nettles, & Wyman (2000). *Portfolio and Performance Assessment in Teacher Education.* Boston: Allyn & Bacon.

"A portfolio is not merely a collection of course projects, assignments, videotapes, and pictures designed to impress someone. If it is to meet its full potential, a portfolio must be organized, goal-driven, performance-based evidence that indicates the attainment of the knowledge, skills, and attitudes needed to be a teacher." (p.21)

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Campbell, Melenyzer, Nettles, & Wyman (2000). *Portfolio and Performance Assessment in Teacher Education.* Boston: Allyn & Bacon.

"We have found that as students progress through a teacher education program that has a portfolio assessment system, they increasingly understand the power and potential of portfolios for giving direction to reflect on throughout their professional lives." (p. x)

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Scrapbook or portfolio?

"...Tom Bird...asked us to think about the distinction between the teachers' filing cabinet and the teachers' portfolio. As teachers, we accumulate a great deal of documentation of our work. But depending on the case we have to make, we draw from the filing cabinet and create a particular portfolio." (Shulman, 1998)

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Is it a portfolio?

- Or is it an electronically stored collection of student work?

Types of Portfolios

- **Working Portfolios**
  -an intentional collection of work guided by learning objectives

- **Display, Showcase, or Best Works Portfolios -** demonstrate the highest level of achievement - a celebration of learning

- **Assessment Portfolios**
  - to document student learning on specific curriculum outcomes

Purposes for Portfolios

Hartnell-Young & Morriss (1999) *Digital Professional Portfolios for Change*. **Skylight**

Formative (developmental) Purposes	Summative (assessment) Purposes	Marketing Purposes
1. Professional Development Planning	4. University Admission	8. Job Application
2. Recording Continuing Professional Development	5. Meeting Course Requirements	9. "Cold Calling"
3. Celebration of Achievements	6. Performance Review & Promotion	10. Organizational Capability
	7. Professional Certification & Registration	

Portfolio Purposes (p.9)

Learning Portfolio	Assessment Portfolio	Employment Portfolio
Promotes teacher reflection and ownership over the learning process.	Presents educational organizations with information about a teacher's effectiveness.	Provides prospective employers with information about a teacher's suitability for a position.

Wolf, Kenneth (1999) Leading the Professional Portfolio Process for Change. Skylight Training & Publishing, Inc.

Portfolio Authors and Audiences
(p.10)

	Learning Portfolios	Assessment Portfolios	Employment Portfolios
Author	Teacher	Teacher/ Educational Organization	Teacher/ Prospective Employer
Audience	Teacher/ Colleagues, Parents, & Students	Educational Organization/ Public	Prospective Employers

Wolf, Kenneth (1999) Leading the Professional Portfolio Process for Change. Skylight Training & Publishing, Inc.

Portfolio Structures & Contents
(p.11)

	Learning Portfolios	Assessment Portfolios	Employment Portfolios
Structure	Open-ended, teacher determined	Highly structured, standardized	Semi-structured
Content	Wide variety of teacher-selected work related to self-selected goals	Clearly specified set of teacher work as well as standardized assessments and information from others.	Documents such as resumes and recommendations along with selected teacher work

Wolf, Kenneth (1999) Leading the Professional Portfolio Process for Change. Skylight Training & Publishing, Inc.

Portfolio Process (p.11)

	Learning Portfolios	Assessment Portfolios	Employment Portfolios
Process	Teachers choose own goals and build portfolios that reflect these goals. Teachers self-assess with assistance of peers and mentors	Teachers follow guidelines for building a portfolio according to instructions from organizations conducting the assessments.	Teachers customize their portfolios to match the job requirements, and prospective employers assess teacher's qualifications based on school or district needs and criteria

Wolf, Kenneth (1999) Leading the Professional Portfolio Process for Change. Skylight Training & Publishing, Inc.

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Portfolio Trade-Offs (p.12)

	Learning Portfolios	Assessment Portfolios	Employment Portfolios
Strengths	Teacher chosen and flexible; a non-threatening forum for analyzing own practice	Valid and reliable assessment and comprehensive view of a teacher's performance and potential	Advertises a teacher's talents and provides information to employers about a teacher's perspectives and practices
Limitations	Can be idiosyncratic and unconnected to professional standards or school goals	Reduces teacher ownership and can be time-consuming to evaluate	Provides a view of teacher strengths rather than weaknesses and can emphasize presentation over substance

Wolf, Kenneth (1999) Leading the Professional Portfolio Process for Change. Skylight Training & Publishing, Inc.

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Why use technology? Sheingold's Reasons (1992)

- To make work in many media accessible, portable, examinable, widely distributable
- To make performance replayable and reviewable; it is important to see more than once
- To address ownership issues of student-created work
- To address storage issues

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Why use technology? (Barrett's assumptions)

- Today, many documents are initially created with a computer, anyway.
- Hypertext links allow clear connections between standards and portfolio artifacts
- Creating an EP can develop teachers' skills in using multimedia technology
- Modeling: A teacher with an EP will be more likely to have students with EPs.
- It's fun & easier to manage the process!
  (especially storage, presentation, and duplication)

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Benefits of Developing Multimedia Portfolios

Hartnell-Young & Morriss (1999) *Digital Professional Portfolios for Change*. **Skylight**

Benefits from the educator's point of view
- ability to present a wide variety of forms of evidence, linked for easy access
- evidence addresses a range of audience intelligences
- evidence can be shown to be authentic
- increases skills and knowledge of multimedia production and its use
- enhances the image of the teacher as an innovator, and as being confident with technology
- the teacher can be more "employable"
- students and teachers work together on meaningful activity

p. 25   29

Benefits of Developing Multimedia Portfolios

Hartnell-Young & Morriss (1999) *Digital Professional Portfolios for Change*. **Skylight**

Benefits from the organization's point of view
- increases confidence of teachers in implementing technology
- students see a positive role model when teachers work with technology in this way
- enhances the "learning organization": students and teachers learn together when all create portfolios
- increases knowledge of the "intellectual capital"
- the product can be used in marketing the capabilities of the organization

(p. 25)   30

Benefits of Professional Portfolios

- Documentation of Growth & Achievement
- Self-assessment of Professional Goals
- Staff Development
- Employment Interviews
- Advancement
- Performance Reviews
- Lifelong Learning Tool
- Source of Affirmation & Pride
- Sharing with Students

Rolheiser, Bower, & Stevahn (in press) The Portfolio Organizer: A Guide for Decision Making

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Electronic Portfolio Development is based on two bodies of literature:

Portfolio Development Literature

- Collection
- Selection
- Reflection
- Projection (or Direction)

(Danielson & Abrutyn (1997) An Introduction to Using Portfolios in the Classroom. Alexandria: Association for Supervision and Curriculum Development.

Multimedia Development Literature

- Assess/Decide
- Design
- Develop
- Implement
- Evaluate

Ivers, K., & Barron, A. E. (1998) Multimedia Projects in Education. Englewood, CO: Libraries Unlimited, Inc.

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Collection

- The primary activity of a working portfolio.

- Don't save everything!

- Purpose and audience and future use of artifacts will determine content.

Danielson & Abrutyn (1997). *An Introduction to Using Portfolios in the Classroom.* ASCD

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Selection

- Students examine what has been collected to decide what should be moved to a more permanent assessment or display portfolio.
- Criteria should reflect the learning objectives of the curriculum.

(Danielson & Abrutyn [ASCD], 1997, p. 13)

- This is where many electronic portfolios end!

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Reflection

- Students articulate their thinking about each piece in their portfolio.
- Through this process of reflection, students become increasingly aware of themselves as learners.
- Use reflective prompts.
- Include reflections on every piece plus overall reflection on entire portfolio.

(Danielson & Abrutyn [ASCD], 1997, pp.15-16)

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Reflection

- "The use of portfolios not only helps students make better progress on the skills in the curriculum; it also helps them develop critical skills such as **reflection and self-evaluation** which are fundamental to excellence in any walk of life."

(Danielson & Abrutyn [ASCD], 1997, p. 26)

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Projection

- Looking ahead and setting goals for the future.
- Students see patterns in their work.
- These observations can help identify goals for future learning.

(Danielson & Abrutyn [ASCD], 1997, p. 18)

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The Portfolio Connection
(Burke, Fogarty, Belgrad, 1994)

- **PROJECT** purposes
- **COLLECT** and organize artifacts
- **SELECT** key artifacts
- **INTERJECT** personality
- **REFLECT** metacognitively

- **INSPECT** to self-assess
- **PERFECT** and evaluate
- **CONNECT** and conference
- **INJECT/EJECT** to update
- **RESPECT** accomplishments

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The Portfolio Connection
(Burke, Fogarty, Belgrad, 1994)

- **PROJECT** purposes
  - the "big picture" goals for the portfolio

Projecting is focusing.

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The Portfolio Connection
(Burke, Fogarty, Belgrad, 1994)

- **COLLECT** and organize the artifacts

Collection is abundance.

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The Portfolio Connection
(Burke, Fogarty, Belgrad, 1994)

- **SELECT** key artifacts
  - contents of the portfolio
  - prioritize

Selection is abandonment.

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The Portfolio Connection
(Burke, Fogarty, Belgrad, 1994)

- **INTERJECT** personality
  - cover, design, layouts
  - personal touch

Interjection is style and flair.

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The Portfolio Connection
(Burke, Fogarty, Belgrad, 1994)

● **REFLECT** metacognitively
- label each artifact for meaning and value
- give voice to why an artifact is included

Reflection is a mirror into the self. 43

Reflection and Learning

"We do not learn from experience.
We learn from reflecting on experience."

-John Dewey

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…from Kay Burke (1997)
<u>Designing Professional Portfolios for Change</u>

"Without written commentaries, explanations and reflections, the portfolio is no more than a notebook of artifacts or a scrapbook of teaching mementos. Such a portfolio does not reveal the criteria for collecting the contents, the thoughts of why the items were selected, or what the teacher and the students learned."

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The Portfolio Connection
(Burke, Fogarty, Belgrad, 1994)

● **INSPECT** to Self-Assess
- meet long-term & short-term goals
- evidence of strengths & weaknesses

Inspection ensures one is on course.

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The Portfolio Connection
(Burke, Fogarty, Belgrad, 1994)

● **PERFECT** and Evaluate
- fine-tuning the content
- getting ready for grading

Perfecting is to make a polished final draft or a finished product.

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The Portfolio Connection
(Burke, Fogarty, Belgrad, 1994)

● **CONNECT** and Conference
- share the finished product with someone
- use portfolio as basis for meaningful dialogue

Connecting is conversing.

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The Portfolio Connection
(Burke, Fogarty, Belgrad, 1994)

● **INJECT/EJECT** to update
 - keeps portfolio manageable
 - regular honing keeps the
portfolio fresh

*Injecting/ejecting is the cycle of the
portfolio.*

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The Portfolio Connection
(Burke, Fogarty, Belgrad, 1994)

● **RESPECT** Accomplishments
 - formal exhibition before an
audience

Respecting is celebration.

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The Portfolio Connection
(Burke, Fogarty, Belgrad, 1994)

● **Three Options for Portfolio Development**
● **Essential Portfolio**
  • **Collect, Select, Reflect**
● **Expanded Portfolio**
  • **Project, Collect, Select, Reflect, Perfect, Connect**
● **Elaborated Portfolio**
  • **Project, Collect, Select, Interject, Reflect, Inspect, Perfect, Connect, Inject/Eject, Respect**

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Portfolio Organizer
(decision-making points, not a step-by-step process)

● Purpose, Type, Audience, Time Frame
● Categories for Entries
● Criteria for Entries
● Work Samples
● Reflections
● Storing and Organizing Portfolios
● Sharing the Learning: Conferences & Responses
● Goal Setting
● Self-Evaluation
● Getting Started

Rolheiser, Bower, & Stevahn (in press) <u>The Portfolio Organizer: A Guide for Decision Making</u>

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Multimedia Development

Instructional Design Stages
● **Assess** or **Decide**
● **Design** or **Plan**
● **Develop**
● **Implement**
● **Evaluate**
● **Present** or **Publish**

Multimedia Authoring Skills
● Use Authoring Tool to structure navigation
● Scan Graphics
● Digitize Sound
● Digitize Video
● Write CD-R/W or Post to WWW

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Combining Portfolio Development & Multimedia Development

Portfolio Development	Electronic Portfolio Development	Multimedia Development
●*Purpose & Audience*	**Defining the Portfolio Context & Goals**	●*Decide, Assess*
●*Collect* ●*Interject*	**The Working Portfolio**	●*Design, Plan*
●*Select* ●*Reflect, Direct*	**The Reflective Portfolio**	●*Develop*
●*Perfect, Inspect* ●*Connect*	**The Connected Portfolio**	●*Implement* ●*Evaluate*
●*Respect (Celebrate)*	**The Presentation Portfolio**	●*Present* ●*Publish*

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The Phases in Portfolio Development
(Burgess & Holmes 2000)

Phase	Description
Anxiety	Anxiety about the unknowns. Anxious about process, product and outcomes.
Uncertainty	Uncertainty about what to document, how to document, when to document.
Connections	Thoughtful reflection and analysis about the work they do.
Awareness	Heightened awareness of how much has been accomplished as assembled artifacts are reviewed.
Presentation	Professional pride as portfolio takes shape and becomes a finished product. A sense of accomplishment.
Evaluation / reflections	Enabler. Has developed sufficient confidence to assist others through the portfolio process.

Burgess, G. W. & Holmes, B. D. 2000. Producing a professional portfolio. Guidebook for success. Conway, Arkansas: River Road Press.

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Stage 1
Defining the Portfolio Context & Goals

- Portfolio Development   ● Multimedia Development
  Purpose, Audience   ***Decide, Assess***

  - Identify the **purpose** of the portfolio.
  - Identify the learner outcome **goals** or **standards**
  - Identify the **resources** available
    - Identify the hardware and software
    - Identify time, staff development, etc.
  - Assess the **technology skills** of students/teachers
  - Identify the **audience** for the portfolio

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Stage 1
Appropriate Technology Tools & Strategies

- Use whatever software tools are currently being used to collect artifacts, storing them on a hard drive, a server, or videotape. Set up electronic folders for each standard to organize the artifacts (any type of electronic document). *[Level 1]* AND

- Use a **word processor**, **database**, **hypermedia software** or **slide show** to articulate the standards to be demonstrated in the portfolio and to organize the artifacts. *[Level 2]* OR

- Use an **HTML editor** to articulate the standards to be demonstrated in the portfolio and to organize the artifacts. *[Level 4]* OR

- Use a **multimedia authoring program** to organize by the standards to be demonstrated in the portfolio. *[Level 5]*

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Elements of Portfolio Planning

- ● Purpose

- ● Audience

- ● Process (not Product)

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Portfolios
Clarifying, Constructing and Enhancing (Johnson & Rose, 1997)

- "When we only focus on portfolios as a product, we've missed their potential power, which comes from the process of **creating** them. It is the **decision-making process** concerning which entries are placed in the collection and **why each was selected** that actually builds the power of the portfolio by personalizing education for the student (DeFina, 1992; Glazer & Brown, 1993; Herman et al., 1992) (p.8)

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Portfolios
Clarifying, Constructing and Enhancing (Johnson & Rose, 1997)

- Benefits for all participants:
  - » Students accept responsibility for their own learning
  - » Shift the role of the teachers
  - » Merge assessment and instruction into the same tasks
  - » Hold schools accountable for complex learning
  - » Create dynamic school climates (p.11)

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Portfolios
Clarifying, Constructing and Enhancing (Johnson & Rose, 1997)

- Process of creating contents of portfolios is part of curriculum, instruction and assessment
- A portfolio approach to assessment captures the best each student has to offer, encourages the use of many ways to evaluate learning, and has an integrity and validity that no other type of assessment offers. (Valencia, 1990; Wiggins, 1993)   (p.17-18)

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A few words about the primary audience for the portfolio

- If you focus on electronic portfolios for employment AND the primary audience (principals) doesn't look at it, then students become **frustrated**.
- If you focus on electronic portfolios for evidence of professional development, AND the primary audience (the student & faculty) uses the portfolio to validate that growth, then students become **empowered**.

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Confusion of purpose
(Breault, AERA, 2000)

- Research on metacognition in preservice portfolio development has shown that faculty and students see different purposes for portfolios:
- Students see portfolios as marketing tools
- Faculty see portfolios as assessment and formative evaluation tools
- The confusion of purpose can create dissonnance.

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"High Stakes Portfolios"

- The move to "high stakes performance" portfolios may undermine the transformative nature of reflective portfolios.
- Be aware of the conflicting purposes and values when developing portfolios

(AERA, 2000)

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Why use Standards in Portfolios?

"Standards come alive when they are assessed through performance-based means such as portfolios."

National Evaluation Systems (1997) Linking Standards and Assessment. (p.30)

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Organizing framework

- Most states have adopted standards for both students, practicing teachers, and new teachers. These standards form an ideal framework for thinking about organizing an electronic portfolio.

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"Some teacher educators believe that students should impose their own organizational schemes on their portfolio documentation. Certainly when a portfolio is being designed solely as a marketing tool, this might be desirable. It would allow for the greatest flexibility and enhance opportunities for individuality and creativity." (p. 21)

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"However, when portfolios are being used by a teacher education program to focus the efforts of both faculty and students on achieving standards for professional performance, it makes more sense to organize at least most of the portfolio around the chosen standards. The easiest way for your students to do this is to divide the portfolio into labeled sections, one for each of the standards." (p.21)

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Electronic Portfolio Planning Worksheet Stage 1

You will know you are ready for the next stage when:

- You have identified the purpose and primary audience for your portfolio.
- You have identified the standards or goals that you will be using to organize your portfolio.
- You have selected the development software you will be using and have completed the first stage using that tool.

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What is the best electronic portfolio program???

IT DEPENDS . . .

- on the assessment context
- and a variety of other factors, human and technological, that exist in a classroom, school or district.

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Two Directions in Electronic Portfolio Development

Generic tools approach
- Using off-the-shelf software

Customized systems approach
- Designing a networked system
- Buying a proprietary software package

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Generic tools approach

- Portfolios with reflections and artifacts that more closely emulate the traditional 3-ring binder
- Structure imposed by developer and/or software -- flexibility and creativity
- Low cost for infrastructure
- Higher cost for training
- Student can continue developing portfolio once out of the system

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Customized systems approach

- Record-keeping system that can be used to collect reflections and artifacts
- Highly structured using online database -- limited flexibility and creativity
- High cost for infrastructure
- May be a lower cost for training, depending on system design
- What happens to portfolio when students leave the system?

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Two Directions in Electronic Portfolio Development

Generic tools approach
- Advantages
  - » Cost
  - » Use what is widely available
  - » Easy to get started
  - » Easy to maintain
- Disadvantages
  - » Ability to aggregate data
  - » May be difficult to share online with security

Customized systems approach
- Advantages
  - » Ability to aggregate data
  - » Accessibility
  - » Security
- Disadvantages
  - » Cost
  - » Infrastructure requirements

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Generic Construction Tools (off-the-shelf software)

- **Relational Data Bases**, - FileMaker Pro 4.0 or Microsoft Access
- **Hypermedia "card" formats**, such as HyperStudio, HyperCard, Digital Chisel, or SuperLink + commercial templates available.
- **Multimedia authoring software**, such as Macromedia Authorware, Macromedia Director
- **Network-compatible hypermedia**:
  - **HTML**/WWW Pages
  - **Adobe Acrobat** (PDF)
- **Office "Suite" -- Multimedia slide shows**, such as Microsoft PowerPoint, AppleWorks, and Microsoft Word

See article in *Learning & Leading with Technology,* **April, 2000**

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Stage 2
The Working Portfolio

- Portfolio Development
  Collect, Interject
- Multimedia Development
  Design, Plan

- Identify the **content** of portfolio items and the type of evidence to be collected

- Select the most appropriate **software development tools** based on the portfolio context and the resources available.

- Identify the **storage** and **presentation/publishing medium** most appropriate for the situation

- Gather the **multimedia materials** that represent learning achievement. Interject personality into the portfolio design.

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Stage 2
Appropriate Technology Tools & Strategies

- **Select software to organize selected artifacts:**
  - Use **Word Processing**, **Slide Shows**, **Hypermedia**, or **Database** programs to list and organize the artifacts that will be placed in the Working Portfolio. *[Level 2]*
    OR
  - Use an **HTML editor** (or any tool that is normally used) to develop and organize the artifacts for the Working Portfolio. *[Level 4]*
    OR
  - Use a **multimedia authoring program** to organize the selected artifacts. *[Level 5]*

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Stage 2
Appropriate Technology Tools & Strategies

- **Convert student work into digital format**
  - Use **appropriate multimedia** to add style & individuality to portfolio.
  - Use a scanner (or camera) to digitize **images** *[Level 2]*
  - Use a microphone and sound digitizing program to digitize **audio** artifacts *[Level 4]*
  - Use a video camera/VCR, digitizing hardware and software to digitize **video** artifacts *[Level 5]*

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Types of Evidence in a Portfolio

- **Artifacts**
  documents produced during normal academic work
- **Reproductions**
  documents of student work outside the classroom
- **Attestations**
  documentation generated about student's academic progress
- **Productions**
  documents prepared just for the portfolios
  - » Goal statements
  - » Reflections
  - » Captions

Barton, James & Angelo Collins (1997) *Portfolio Assessment: A Handbook for Educators*. Dale Seymour Publications, pp. 4-5

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Productions

- **Goal Statements**
  Student's personal interpretations of each specific purpose for the portfolios
- **Reflective Statements**
  Students write as they review and organize the evidence in their portfolios
- **Captions**
  Statement attached to each piece of portfolio evidence, articulating what it is, why it is evidence, and of what it is evidence.

Barton, James & Angelo Collins (1997) *Portfolio Assessment: A Handbook for Educators*. Dale Seymour Publications, pp. 5-6

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Electronic Portfolio Planning Worksheet
Stage 2

You will know you are ready for the next stage when:

- You have a collection of digital portfolio artifacts that represent your efforts and achievement throughout the course of your learning experiences.
- You have used the graphics and layout capability of the chosen software to interject your personality into the portfolio artifacts.
- It is time to turn this collection into a portfolio.

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Stage 3
The Reflective Portfolio

- Portfolio Development
  Select, Reflect, Direct
- Multimedia Development
  Develop

- Write **general reflective statements** on achieving each standard.
- **Select artifacts** that represent achievement of the standards or goals.
- **Write reflective statements** for each artifact, elaborating on why it was selected and its meaning and value in the portfolio.
- From the reflections and feedback, **set learning goals** for the future.

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A portfolio without reflections:

- is just a multimedia presentation

- or a fancy electronic resume

- or a digital scrapbook

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Stage 3
Appropriate Technology Tools & Strategies

- Use **Word Processing**, **Slide Shows**, **Hypermedia**, or **Database** programs to record the reflections and future goals that will become the Reflective Portfolio. *[Level 2]*
  OR
- Use an **HTML editor** (or any tool that is normally used) to record the reflections and future goals that will become the Reflective Portfolio. *[Level 4]*
  OR
- Use a **multimedia authoring program** to record the reflections and future goals that will become the Reflective Portfolio. *[Level 5]*

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Campbell, Melenyzer, Nettles, & Wyman (2000).
Portfolio and Performance Assessment in Teacher Education.
Boston: Allyn & Bacon.

We also like the three questions suggested by Van Wagenen and Hibbard (1998)"

1. **"What?"**
2. **"So what?"**
3. **"Now what?"**   (p.22)

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Campbell, Melenyzer, Nettles, & Wyman (2000).
Portfolio and Performance Assessment in Teacher Education.
Boston: Allyn & Bacon.

"To use these questions, the student would first summarize the artifact that documents the experience, in order to answer the question **"What?"**

(p.22)   86

Campbell, Melenyzer, Nettles, & Wyman (2000).
Portfolio and Performance Assessment in Teacher Education.
Boston: Allyn & Bacon.

Second, the student would reflect on what he or she learned and how this leads to meeting the standard, which answers the question **"So what?"** (p.22)

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Campbell, Melenyzer, Nettles, & Wyman (2000).
Portfolio and Performance Assessment in Teacher Education.
Boston: Allyn & Bacon.

"And third, the student would address implications for future learning needed and set forth refinements or adaptations, in order to answer **"Now what?"** (p.22)

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Setting goals for future learning

This is the stage that turns

portfolio development

into powerful

professional development

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Outcomes of Portfolios

Hartnell-Young & Morriss (1999) *Digital Professional Portfolios for Change.* Skylight

"Many people discover that one of the most important and long-lasting outcomes of producing a portfolio is the self-esteem that comes from recording and reflecting on achievements and career success.

"Experienced teachers and administrators are finding that the benefits of developing a portfolio include the opportunity for professional renewal through mapping new goals and planning for future growth." (pp. 9-10)

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Electronic Portfolio Planning Worksheet
Stage 3

You will know you are ready for the next stage when:

- You have selected the artifacts that are going into your formal or presentation portfolio.
- You have written the reflective statements and identified learning goals for the future.

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Stage 4
The Connected Portfolio

- Portfolio Development
  Perfect, Inspect, Connect
- Multimedia Development
  Implement, Evaluate

- **Organize the digital artifacts** using **hypertext links.**
- **Identify patterns** through the "linking" process.
- **Final review and editing** of the portfolio & goals.
- **Share** the portfolios with an appropriate audience.
- Use the portfolio to **make** instruction/learning or professional development **decisions**.

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Stage 4
Appropriate Technology Tools & Strategies

- Convert word processing, database or slide show documents into either PDF *[Level 3]*
  or HTML *[Level 4]* AND
- Create hypertext links between goals, student work samples, rubrics, and assessment.
  Insert multimedia artifacts *[Level 3 & 4]*

  OR
- Create a hypermedia presentation using a multimedia authoring program, creating links between goals, student work samples, rubrics, and assessment. *[Level 5]*

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Linking = Learning

- The transformation from "artifacts" to "evidence" is not always clear.
- Linking reflections to artifacts makes this thinking process more explicit.
- The ability to create links from multiple perspectives (and multiple goals) overcomes the linearity of two-dimensional paper portfolios.

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Benefits of Digital Portfolios
Hartnell-Young & Morriss (1999) *Digital Professional Portfolios for Change*. **Skylight**

"Hypertext allows for deeper understanding and explanation through links that go from summary statements to complete documents, related items, and reflections. In addition to displaying artifacts efficiently, links can allow the collection of material in a Personal Archive to become broader and more thoughtful." (pp. 23-24)

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Benefits of Digital Portfolios
Hartnell-Young & Morriss (1999) *Digital Professional Portfolios for Change*. **Skylight**

"Developing a multimedia portfolio can be challenging, requiring teachers to model learning, develop technology skills along with their students, and share the results with a wider audience. (p. 24)

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Electronic Portfolio Planning Worksheet
Stage 4

You will know you are ready for the next stage when:

- Your documents are converted into a format that allows hypertext links and you can navigate around your document using those hypertext links.
- You have inserted the appropriate multimedia artifacts into the document.
- You are ready to share your portfolio with someone else and/or you are ready to publish your portfolio.

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Stage 5
The Presentation Portfolio

- Portfolio Development
  Respect (Celebrate)
- Multimedia Development
  Present, Publish

- **Record** the portfolio to an appropriate presentation and storage medium.
- **Present** the portfolio before an audience (real or virtual).
- **Evaluate** the portfolio's effectiveness in light of its purpose and the assessment context.

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Stage 5
Appropriate Technology Tools & Strategies

- Post the portfolio to WWW server

  OR

- Write the portfolio to CD-ROM

  OR

- Record the portfolio to videotape

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Know Your Audience

- What are the issues in posting portfolios to the Internet?
  - » Publishing a reflective portfolio on the WWW may inhibit the quality of the reflection
  - » Intellectual property rights
  - » Security and access

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A year-long Electronic Portfolio development timeline

Stage	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
I	XX							(x)	
II	XX	XX	XX	XX	XX	XX	XX	XX	
III	(x)	(x)	(x)	XX	(x)	(x)	(x)	(x)	XX
IV					X			(x)	XX
V								(x)	XX

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Wright State University

- Graduate students create their electronic portfolios with whatever tools they have
- Must demonstrate four specific outcome types from their program standards
- Students write a two-page synopsis of their portfolios, which the program keeps (+resumé)
- Former students used to create a videotape "tour" to document their "paper-based" portfolios, which the program kept   (NECC, 1999)

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A few final words

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Become a "digital pack rat"

- Set up an electronic filing system
- Use "high density storage" devices
  - Zip disks, Jaz disks
  - CD-R, DVD-RAM
- Don't leave the "collection/selection" until the last minute
- Plan for an electronic portfolio from the beginning of the program

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Identify standards

- Use for portfolio organization
- Set up "folders" to store artifact for each standard
- Suggested Standards:
  NCATE/ISTE (Technology)
  INTASC (Pre-service)
  NBPTS (National certification)
  State or Local Teaching Standards

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Select artifacts

- Select the artifacts that demonstrate achievement of each standard
- Possible types of artifacts to include:
  - significant papers, projects;
  - evaluations from all practicum/field experiences;
  - professional correspondence, letters of reference;
  - letters of recognition, awards, certificates, etc.;
  - samples of effective and reflective writing;
  - stories, journal entries, articles, manuals ;
  - photographs, drawings, sketches;
  - lesson plans/curriculum that you have created;
  - audio, video, or other electronic evidence;

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Write reflective statements

- For each **artifact**
  (in a Learning/Working Portfolio)

- For each **standard**
  (in an Assessment Portfolio)

- Could set up a standard form to be completed
  » Using a database program
  » Using a PDF form with "fields"

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Create an outline or storyboard

- Use word processor with outlining
  (such as Microsoft Word)
      OR
- Use slide show with outlining
  (such as PowerPoint)
      OR
- Use mapping software
  (such as Inspiration)

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Create Table of Contents

- Divide into sections:
  - » Introduction
    - – Acknowledgement
    - – Table of Contents
  - » The Standards and Reflections
  - » The artifacts
- Create a different Table of Contents for
  - » an Assessment Portfolio
  - » an Employment Portfolio

Create a portfolio matrix

- Single page overview/cross reference if individual artifacts document achievement of more than one standard
- Use spreadsheet or table in word processor
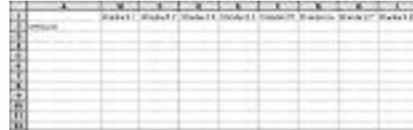
Convert Artifacts to PDF

- Create PDF files from word processing or slide show files (or any application)
- Use PDF Writer
- OR convert Postscript files with Acrobat Distiller (print to file)

Edit PDF Files in Exchange

- Edit Pages in Exchange
  - » Insert pages
  - » Extract pages
  - » Replace pages
  - » Delete pages
  - » Move pages
  - » Crop pages
  - » Rotate pages
- Page Actions
  - » Use forms
  - » Add web links
  - » Add multimedia objects
    - – Sound
    - – QuickTime movies
  - » Notes
  - » Navigation tools

Create Multimedia Files

- Digitize and edit sound clips - use sound editing software: Sound Companion Kaboom!

- Digitize and edit video clips - use video editing software: Movie Player Pro, Avid Cinema, Adobe Premiere, Apple's new Final Cut

Navigation

- Organize portfolio with hypertext links between
  - – Standards
  - – Artifacts
  - – reflections
- Create bookmarks & thumbnails
- Add movie links
- Insert sound clips
- Add "buttons" with Forms tool

Publish Portfolio

● Record to appropriate medium

Floppy disk (no multimedia)
CD-Recordable
WWW server
Video tape
DVD (coming soon)

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Technology Skills for developing Electronic Portfolios in Acrobat

1. Converting files from any application to PDF using PDFWriter or Acrobat Distiller
2. Scanning/capturing and editing graphic images
3. Digitizing and editing sound files
4. Digitizing and editing video files (VCR -> computer)
5. Organizing portfolio artifacts with Acrobat Exchange, creating links & buttons
6. Organizing multimedia files and pre-mastering CD-ROM using Jaz disks
7. Writing CD-Recordable disc using appropriate CD mastering software
8. Recording computer images with narration to video tape (computer -> VCR)

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Don't double your learning!

● When learning **new tools**, use **familiar tasks**;

● When learning **new tasks**, use **familiar tools**.

Barrett, 1991

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Remember the portfolio is a unique document...

...illustrating your achievements as an educator. It should:

- identify and reflect positively on relevant learning achievements
- critically analyze experiences and articulate the learning achieved
- demonstrate increased awareness of own potential and aspirations
- demonstrate improved self-confidence to develop own learning
- identify academic and professional development
- demonstrate skills, knowledge and understanding gain from coursework
- demonstrate skills, knowledge and understanding gain from the practicum
- demonstrate skills, knowledge and understanding gain from related professional work experiences
- critically reflect your thoughts and self assessment

- - from UAA Adult Education Portfolio Handbook, 1998

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Above all else:

May your electronic portfolios become dynamic celebrations of learning across the lifespan!

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Helen C. Barrett, Ph.D.

● Web Site on Electronic Portfolios
http://transition.alaska.edu/www/portfolios.html
http://electronicportfolios.com
http://helenbarrett.com

● Listserv:
http://groups.yahoo.com/efolios

● E-Mail: afhcb@uaa.alaska.edu

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