Creative, Instructional & Reflective

Electronic Portfolios

**Technology Integration Support
Workshop #3 Resources**

Presented by:

NAU College of Education's
Preparing Tomorrow's Teachers to Use Technology (PT3) Staff

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Creative, Instructional & Reflective Electronic Portfolios

This workshop presents strategies for using electronic portfolios in the teaching and learning process, including the use of electronic portfolios to define meaningful contexts, provide opportunities for reflection and assessment, and organize the instructional planning process. It also presents some information about available electronic portfolio resources at NAU.

The following list describes the resources presented within this packet:

Information Resources

- Different Roles of an Electronic Portfolio

  This resource presents some brief information about the following roles that an electronic portfolio can play within the teaching and learning experience: Artifact Creation as Instructional Context, Goal-Setting, Assessment, Reflection, Communication, Instructor Planning and Management Tool, Learner Organization Tool.

- Sample Teacher-Education Electronic Portfolio Requirements

  This resource presents a checklist illustrating the following possible components in a sample teacher education electronic portfolio: My Basic World-Wide Web Site Development, Media as My Professional Tools, My Educational Research and Evaluation], A Professional Presentation, My Educational Material Evaluation(s), My Multimedia Instructional Program, Instructional Design Project Management, Reflections.

- Electronic Portfolio Context Samples

  This resource presents the descriptions and samples of the following different types of electronic portfolio contexts: Creation, Simulation, Situation Exploration, Game, Case-Based, Story, Performance, Teaching, Reference Exploration, WebQuest Development, Communication.

- Electronic Portfolio Resources at NAU

  This resource presents information regarding the easiest and most supported way to develop Web-based electronic portfolios on the NAU campus.

Different Roles of Electronic Portfolios

It is common practice for educators to use student portfolios to showcase examples of "best practice" work completed. And it is becoming more common for students to use computer-based resources to create electronic or "digital" portfolios. This enables student accomplishments to be communicated to an audience beyond the classroom. But electronic portfolios can play a variety of important roles BEYOND acting as a vehicle for communicating best practice. The chart below presents a variety of different roles that electronic portfolios could play within the teaching and learning environment.

Role	Description
Artifact Creation as Instructional Context	An electronic portfolio is defined by the digital artifacts it presents. The content of such artifacts do not often relate directly to the use of technology, but successfully using technology to create artifacts often necessitates the learning and/or application of a variety of worthwhile skills. This represents a very concrete learning context. In addition to defining concrete creation-oriented learning contexts, the actions surrounding the development of digital material often defines experiences that involve learning and/or applying problem solving as well as collaboration skills.
Goal-Setting	Portfolios can help define both large "meta" instructional goals as well as smaller goals. Planning the creation of portfolio artifacts involves teacher-learner communication and clear goal-setting. If analytic rubrics will be used to evaluate the artifacts, specific categories and items within the rubric constitute clear goals available for review at any time throughout the learning process.
Assessment	Successfully developing artifacts for an electronic portfolio can constitute evidence of learning. The learning of content-related as well as technology and collaboration skills can often be clearly identified by within a successfully-completed portfolio artifact. Designing and developing electronic portfolio artifacts generally constitutes a complex set of tasks, so detailed assessment instruments (including analytical rubrics) are often used. This type of assessment can encourage the learning and testing of higher-order, critical-thinking intellectual skills. In addition, learners can use detailed assessment rubrics as guides to help them acquire the intended skills.

Reflection	The experience of designing, developing, and presenting electronic artifacts provides numerous opportunities to reflect on the learning experience. It is very easy to include reflection requirements within the portfolio. Directing reflective activities and experiences is a very effective instructional strategy, particularly for adult learners.
Communication	Electronic portfolios make it easy to distribute artifacts to others (family, friends, colleagues, and potential employers), especially if the digital portfolio is Web-based. Electronic portfolios can also provide the mechanisms for helping group members living in different geographic locations work collaboratively on projects.
Instructor Planning and Management Tool	Creating a learning environment in which learners must develop electronic portfolio artifacts can help teachers manage the instructional process by enabling them to view, track, and evaluate progress. Also, determining the types of artifacts to be included within student portfolios and creating the analytic rubrics to help guide student portfolio development constitute effective planning practice.
Learner Organization Tool	Portfolio development can help learners organize their time and resources throughout a learning experience. "In Progress" and "Completed" folders, as well as calendars, timelines and progress checklists can help to organize resources and monitor progress. In addition, analytic assessment rubrics can be used as instructional scaffolds, and existing artifacts can be used as instructional examples.

Sample Teacher Education Electronic Portfolio Requirements

Portfolio Component	Sub-Components	Criteria*
My Basic World-Wide Web Site Development [1]	Personal Image [a]	- Personal image scanned or obtained via digital camera - Converted to .gif or .jpg - "Economic" use of size/colors
	Links [b]	- Grade-level/subject matter professional organizations and journals - Employment opportunities - Grade-level/subject matter resources and references - Local-state-national standards for specific grade level and/or content area
	Instructional Web Site Reviews [c]	Overview of at least 3 existing educational web sites, including a description of how they might be useful in facilitating specific standards related to your professional practice
	Personal Philosophy and "Best Practice" Showcase [d]	- Clearly-articulated personal educational philosophy - Sample of work representing area of personal, professional
	Resume [e]	- Educational background - Technological competencies - Previous work experience - Personal and career goals
Media as My Professional Tools [2]	Instructional Management Tools [a]	Strategies and examples illustrating your successful use of electronic media to improve instructional management skills and procedures
	Communication Tools [b]	Strategies and examples illustrating your successful use of electronic media to increase classroom communication with the outside (real) world
	The One-Computer Classroom [c]	Clearly-articulated description and examples of the effective use of a single or small number of computers in your specific grade level or content-area classroom (if applicable)
	Resource Access and Use [d]	Descriptions of how the following education-related resources were obtained from the Internet and used (legally and ethically) within your professional practice: - freeware/shareware - lesson planning resources - images/sound files

	Media as Context [e]	Presentation of specific ways in which you have used electronic media to increase the meaning and/or purpose of instructional experiences in your classroom
	Media in the Content Area [f]	Presentation of the unique ways in which electronic media, particularly computers, are being utilized to improve the quality and effectiveness of specific content-area and/or grade level instructional methods and strategies.
My Educational Research and Evaluation [3]		- Well-constructed narrative presenting educational research, evaluation, and/or assessment efforts. This MAY be a project and/or report successfully completed within an approved evaluation or research. - Effective data presentation where appropriate
A Professional Presentation [4]		Electronically-projected material (such as Powerpoint) conforming to appropriate projected message design criteria of a presentation you have made to a group of students or professionals (building or district meeting, conference etc.)
My Educational Material Evaluation(s) [5]		Evaluation of instructional material (print, software, website etc.) used to facilitate the learning of specific outcomes. Evaluation report should include (but is NOT limited to) addressing: - Context: critical analysis of the learning context established - Components: identification and critique of instructional design components presented within the instructional material - Conditions: identification of outcomes addressed within the instruction, description of conditions and strategies implemented, critique of relationship between conditions/strategies and outcomes - Evaluation of message display characteristics employed

My Multimedia Instructional Program [6]		Plan, develop (author), implement, and evaluate a multimedia computer program designed to facilitate the learning of specific outcomes. This program should include, but is not limited to, the following elements: - Outcome(s) the program is designed to facilitate must be clearly stated and well-written - Context: Meaningful, purposeful context must be established; context role (orienting, instructional, transfer) clearly identified - Components: Appropriate instructional design components must be developed for context type - Conditions: Appropriate strategies and conditions must be developed for outcome type(s) - Message Display: Instructional messages and program usability must conform to appropriate standards - Multimedia program MUST employ audio, video, and some type of animation, and it must do so effectively
Instructional Design Project Management [7]		Provide a record of design documents for one or more ID projects: storyboards, instructional analyses, instructional strategy descriptions, formative evaluation procedures, summaries of any client/designer interactions, and functional specifications for the use of tools/media to solve particular ID-related problems.
Reflections [8]		Variety of narratives documenting personal insight and growth as your journey from teacher to Instructional Technologist unfolded. Narratives should communicate reflections on all aspects of the portfolio development process, and the skills-knowledge-and attitudes needed to personally succeed.

*Note: Collectively, these criteria can easily be referenced to the National Educational Technology Standards for Teachers. You can access these standards at:

http://cnets.iste.org/index3.html

Examples of Creative Digital Portfolio Artifact Contexts

The following chart describes some of the different types of "creative contexts" that can be used to define meaningful and personal portfolio development experiences (note: these examples primarily represent the work of K-12 learners).

Portfolio Artifact Context Type	Description	Examples of Communicating Portfolio Artifacts to Others
Creation	This type of portfolio artifact context simply provides opportunities for learners to create things and display them within a digital format. All digital portfolios are inherently "creation" oriented because the artifacts included in them are created or recreated in digital format by the students.	**"Christy"** http://www.electricteacher.com/portfolio/christy.htm *********** **"Adam"** http://www.nths.nvusd.k12.ca.us/ gallery/pages/Adam_Blatter/Default.html *********** **"Teen Personal Homepages"** http://dmoz.org/Kids_and_Teens/ People_and_Society/Personal_Homepages/By_Teens/A/ *********** **Various Student Projects** http://www.kent.wednet.edu/toolbox/ portfolio.html http://www.hyperstudio.com/ showcase/mmania.html
Simulation **Situation Exploration** **Game**	These types of portfolios are designed to allow the "viewer" to freely explore within a simulated environment or situation, or engage in competition, cooperation, puzzles, or strategies.	**Stock Portfolio** http://www.mehs.educ.state.ak.us/ portfolios/coleman_stanford/colemans_stocks.pdf **History Simulations** http://www.cs.colorado.edu/~l3d/ systems/agentsheets/New-Vista/new-vista.html **Space Settlement** http://lifesci3.arc.nasa.gov/ SpaceSettlement/Contest/
Case-Based **Story**	These portfolio types present stories (fiction or non-fiction). Fictional story elements such as characters, plot, setting, and conflict are used as "anchors" or themes to present specific portfolio artifacts. Non-fiction story elements, such as collected and tabulated data, reflect elements of cases that are often used to help present specific artifacts as well.	**"The Unwritten"** http://library.thinkquest.org/ C001313/fmain1.htm

Performance	Performance contexts enable the learners to create for the sake of contributing to an "event" experienced by others. Performance contexts like musical or dance recitals, plays, photo or other art exhibits, poetry reading etc. can necessitate the learning and/or application of a variety of worthwhile skills.	**"Ceremony of Innocence" Demo from the Real World Studios** http://realworld.on.net/rwmm/ceremony/demo/playindex.html
Teaching	In this portfolio context type, learners are presented with the challenge of helping others to learn the SKA that they are expected to learn themselves. This may include the development of demonstrations or other types of presentations, as well as debates or other persuasion experiences.	**"Holes"** http://library.thinkquest.org/ J0113061/
Reference Exploration	This context type allows the portfolio "viewer" to freely explore and access reference-type information.	**"Gandhi"** http://library.thinkquest.org/ 26523/
WebQuest Development	Presenting a "WebQuest" development project for students encourages them to develop inquiry-oriented activities in which some or all of the information with which their intended learners must interact comes from resources on the Web.	**WebQuest Examples** http://webquest.sdsu.edu/matrix.html
Communication	These "diary-type" portfolio contexts involve learners communicating their thoughts, ideas, reflections etc. These contexts are often organized and presented by time/date.	**Web Logs, or "Blogs"** www.blogger.com

And here are some good places to start looking for AMAZING Web-based and other computer-based material developed by students and teachers:

http://www.thinkquest.org

http://www.kn.pacbell.com/wired/bluewebn/

http://www.kent.wednet.edu/toolbox/portfolio.html

http://www.hyperstudio.com/showcase/mmania.html

Electronic Portfolio Resources at NAU

Creating Web-based Documents

The easiest way for NAU students to develop electronic portfolios is to use their space on the Dana server to store electronic files, and to make these files accessible via the Web. The basic steps presented below illustrate the use of Dana as a "container" for developing electronic portfolios:

Step One: Get comfortable with Dana.

> The following Websites present information needed to "get comfortable" moving files to and from individual Dana accounts:
>
> Explanation of Dana: http://www.nau.edu/webhub/students.html

Step Two: Get comfortable moving files to and from Dana.

> Using Windows Explorer to Access Dana accounts from a PC:
> http://pt3.nau.edu/resources/tutorials/dana.html
>
> Using Fetch to access Dana accounts from a Mac:
> http://jan.ucc.nau.edu/edtech/Tutorials/Fetch/

Step Three: Creating Web pages to be placed in Dana Accounts

> Web publishing resources (non-NAU):
> http://www.nau.edu/policy/hub/development.html
>
> Web development and publishing tutorials developed for NAU's Educational Technology program:
>
> http://pt3.nau.edu/resources/tutorials/tutorials.html

Other Development Resources

In addition to providing technical support, the PT3 staff has some multimedia development equipment available for check-out that could be used in the development of creative electronic portfolios. Currently, these resources include:

- Digital camera
- Scanner
- Clip art

About the PT3 Program at NAU…

The *Preparing Tomorrow's Teachers to Use Technology* (PT3) program at NAU is a federally-funded initiative that is administered through the Arizona K-12 Center. This program is committed to helping education faculty integrate technology into their professional practices. Offering individual technology mentoring and support, helping with course redesign efforts, and providing technology resources represent the primary ways in which the PT3 staff can help with technology integration efforts during the Fall 2002 semester.

Currently, the PT3 staff at NAU includes two full-time personnel. Greg Sherman is an instructional technologist, specializing in the development of computer-supported instructional strategies to facilitate learning within a broad range of contexts. Paul Alley is an educational media developer, specializing in the creation of interactive Web-based material. Greg and Paul are housed in **Room 178** of the education building.

Contact information for NAU's PT3 program:

NAU's PT3 Website :	http://pt3.nau.edu
Greg Sherman's Contact Info:	greg.sherman@nau.edu 3-9415
Paul Alley's Contact Info:	paul.alley@nau.edu 3-9434