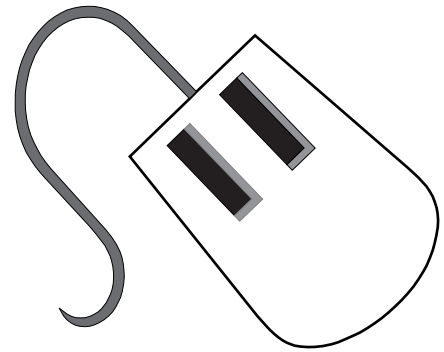


CHAPTER 2

Electronic Portfolios



Case: Teacher Interview

It is spring and Stephanie, who graduates from her teacher certification program in June, is job hunting. Her home district—her ideal job—is open! How will she compete with others who have years of experience? Stephanie talks to her aunt, a principal in a similar district, for guidance. Her aunt tells her she has some advantages experienced teachers do not have. One, the district will be able to teach her how they like things done and not have to undo any bad habits! She will cost the district less in salary. She is more current on theory and technology than some more experienced teachers. Yes, she lacks a proven track record as a teacher. But her aunt believes Stephanie can prepare her interview materials to emphasize her strengths. Stephanie is told she should have an electronic portfolio. Stephanie wonders if interviewers will look at her portfolio. Her aunt answers, “In this district we look at everything the applicant wants to show us in the interview stage. And in the screening stage, an applicant who has a webpage URL listed is viewed more favorably than one who doesn’t. We are looking for technology proficient teachers, and an electronic portfolio certainly indicates this!” Her aunt went on to say that she did not know if all districts look at applicants portfolios, but she could not see how having one could be anything but a plus.

Introduction

A portfolio is a collection of artifacts. Artifacts can be a variety of things—pictures, lesson plans, videotape, and more. (See table 1). So a portfolio is a collection—but a collection with a definite purpose. The purposes, and thus the contents, of portfolios vary. As a pre-service teacher, you may want to construct a portfolio to demonstrate what kind of teacher/person you are to future employers—in other words, a résumé type or marketing portfolio. In this case, your portfolio will focus on your talents, strengths, knowledge, skills, and experiences. Your audience will be K–12 hiring personnel such as administrators and teachers.

There are actually many types of portfolios. Artists, designers and other creative people have long used portfolios to showcase their work and accomplishments. Student portfolios are not new—some districts or schools require students to maintain a collection of their work throughout their school years. Portfolios can be part of the admissions process for graduate school or other opportunities. Portfolios are also used to evaluate higher education instructors for retention and advancement. In-service teachers may maintain portfolios to demonstrate professional growth, for personal reflection, and for summative and formative evaluation purposes. Portfolios are used by classroom teachers to more authentically assess some student learning, such as writing skills.

Electronic Portfolios

A teaching portfolio should be a work in progress—you will never finish learning about teaching, or trying new or different ways to help your students learn. So, it makes sense to create and maintain your portfolio in an electronic format that can be easily updated



and modified. You can use a floppy disk, a zip disk, or server space if available. Two of the better methods are to save your portfolio on a read/write CD (CD-RW) or to maintain your own webpage. Many people have the portfolio available in both of these formats. One advantage of these formats is that everything is in one place—you are not lugging around a scrapbook of pictures, a binder of lesson plans, and a videotape of your teaching. All of these things can be digitized on one CD or posted to one web site and accessible and organized by links. Remote viewers can access the webpage, while the CD is easily portable and viewable on a computer without Internet access. With an electronic

portfolio and a computer and, perhaps, projector, a complete interview team can view the electronic portfolio at the same time. Electronic portfolios can easily incorporate multimedia such as video, graphics, and sound. Technology solutions can help to make the storage and presentation of many artifacts a simple process that is easy to navigate. Additionally, an electronic portfolio shows you are comfortable and knowledgeable with technology.

Just about anything you want to include in your portfolio can be created in electronic format. You may need to use a digital camera to take a picture of a class using hands-on manipulatives, or scan a student letter, but with a little thought and creativity, anything you want to showcase can be digitized.

Pre-service Teacher Portfolios

Of course you are in school to learn how to become the best teacher you can be, but your major objective is likely to secure a teaching position upon graduation. Thus, you may

wish to use your portfolio as an enhanced resume—a digital selling tool. You will want to concentrate on your best work only, and that would be your selection criteria. Some pre-service teachers do just this. Some pre-service teachers select work which directly ties to state or national standards. Some want to show a variety of experiences or a strong grasp of technology. Thinking about what you want your portfolio to demonstrate about you is well worth the time and effort. For example, no one expects a beginning teacher to know everything about teaching. You may be a more desirable candidate for a teaching position if you show how you have grown as a teacher, demonstrating how you have solved educational problems. Therefore, you will want to include artifacts that illustrate this growth—and writing that shows how you have reflected upon and improved your teaching.

Examples of Portfolio Artifacts:

- Table of contents
- Resume
- References
- Lesson plans demonstrating Instructional Strategies, Media and Technology Use, Cooperative Learning Strategies, Assessment of Student Learning
- Photos of your classroom in action to illustrate your lesson examples
- Professional Development Plan
- Reflective journals and Self-Assessment Instruments
- Rules and Procedures, Student Contracts
- Transcripts
- Volunteer Experiences
- Awards and Certificates
- Classroom Management Theory
- Sample worksheets, games and tests
- Examples of lessons—units or projects
- Educational philosophy
- Classroom Management Strategies
- Essays and Compositions
- Letters of recommendation
- Evaluations (written observations and feedback from mentors)
- Goal Statements
- Individualized Plans (for students with special needs)
- Work Experiences
- Letters to Parents
- Management and Organization Strategies
- Observation Reports
- Peer Critiques
- Pictures and Photographs
- Portfolio of Student Work
- Examples of Students' Work
- Final results of projects or committees you have been a part of
- Short video showing you in action in front of the classroom and one-on-one with students
- URL's of school or personal websites you have created
- Personal and professional goals

(McGee, P., n.d)

The following is an example of one possible portfolio that can serve as a model to get you started when you make your own portfolio. Short instructions and details for better understanding each section follow the model.

Pre-Service Teacher:

Overview:

- Who you are
- What you believe
- How you teach
- How you learn, grow, improve

Contents:

1. Who you are
 Personal—hobbies, interests, pets, sports, etc.
 (Possible media: personal webpage autobiographical sketch with pictures)
 Professional—where you have worked, volunteered, gone to school, awards, achievements, coaching
 (Possible media—professional webpage, resume text)
2. What you believe
 Goals—professional
 Teaching philosophy
 - Constructivist
 - Use of technology
 - Principles of good teaching
 - Diversity/multiculturalism
 - Purpose(s) of schools
 - Classroom management beliefs
 - Cooperative learning
 - Differentiated instruction
 - Motivation
 - Critical—higher level thinking
 (Possible media—PowerPoint—quotes from educators, papers, lesson plans)
3. How you teach (or plan to teach)
 Examples of teaching:
 - Whole group—lecture, present material
 Computer lab, Inspiration (brainstorming), Differentiated instruction
 - Small groups—cooperative learning
 Case study, simulations, Internet research, Role-play
 - Individual
 - Remedial (drill and practice) tutoring, Enhanced instruction, advising—personal, academic
 Beyond the classroom—
 - Communication—parents, students outside of class, community
 (Possible media—webpages, flyers, notes, newsletter, letters, pictures, example of lessons, student work, video, pictures)

1. How you learn, grow, improve
 - Self assessment—examples of student work tied to objectives
 - Lessons you create
 - Rubrics
 - Professional development
 - Innovation, creativity
 - Letters of reference, graded work with comments, peer review
 - Profession organizations
 - Conferences
 - Personal growth examples—classes, activities, reflection.
 (Possible media—scanned evaluations, letters, conference flyers, pictures, sound files, video)

Another approach is described by the Centre for School-Based Experiences at the University of Saskatchewan. A summary of this four-step process is presented below:

1. Project: Writing a philosophy of education should be something all pre-service educators should do because it helps define how you will teach. The resulting philosophy will also help make the process of selecting portfolio artifacts easier. As you learn how to make lesson plans in future classes, you will learn a process to follow to ensure effective planning and this same process can be used to help plan your portfolio. Finally, always keep in mind your target audience.
2. Collect: Start collecting the artifacts. These are examples of your work that exemplify the image you would like to project. As you collect items, you should also be aware of what might be missing that would help to paint a clearer picture of who you are as a teacher. If you are not ready to place items into the portfolio, you should have a method of storing the potential artifacts that can make the future processes of selecting specific pieces more efficient.
3. Select: When selecting items please keep in mind that each item should be reflective of at least one of your attributes. And, you should avoid making the portfolio too comprehensive because it will become overwhelming to interviewers who will have limited time. Play to your strengths.
4. Reflect: For each artifact include a description, giving rationale and context in which it was used in a classroom or how it could be used in a classroom if it was something you developed prior to your student teaching experience. Speak to what this artifact says about you and your teaching. Does the whole portfolio give the end-user a clear picture of who you are as a teacher? (Documenting Professional Growth, n.d.)

Some experts think the reflection stage is the most important part of the portfolio process. Instead of just having a lesson plan, you may want to write an introduction to the plan explaining why it is included and what it demonstrates about your teaching. At the very least, your portfolio needs to show careful, thoughtful selection; you should know why each item is included, and be able to explain this if asked. Focus on what you are trying to convey with your portfolio and be highly selective in what you include; few people have time to examine a lot of material, which is why a resume is often only 1 page long. Also, there is little reason to include everything when a stated purpose of a portfolio is that only the best samples have been selected. You can gain more ideas for portfolio development by

viewing portfolio samples and many samples are included in the portfolio section of the companion website (<http://www.integratetech.net>).

As you collect samples of your work, you will eventually have to narrow your pool of potential artifacts down to a workable collection. And, you might develop a personalized method of determining whether to use and/or keep a specific item. Van Wageningen and Hibbard (1998) describe three questions you should ask before including any artifact:

1. “What?” (what is it—what does it show?)
2. “So what?” (why am I including this—does it meet a technology or subject-related educational standard? Does it show something about me or my teaching that I believe is important?)
3. “Now what?” (did I show how I met this standard or showcase this skill adequately? If not, what else should I include or plan for the future?)

This process is reinforced by Campbell, Cignetti, Melenyzer, Nettles, & Wyman (2000) who recommend that confirming evidence inclusion rationales answer at least three important questions:

1. What is the artifact?
2. How does it relate to this particular standard/principle?
3. What does it say about one’s growing competence?

Limiting artifacts, the confirming evidence, to no more than two or three for each standard emphasizes quality over quantity. Three “whats” suggested by Van Wageningen and Hibbard (1998) are also valuable questions to include in the reflective component of a teaching portfolio and these are:

1. What? (The candidate summarizes and provides context for the artifact).
2. So what? (The candidate reflects on what was learned and how the learning leads to meeting the standards/principles).
3. Now what? (The candidate assesses implications for further learning and sets goals for future professional development).

Portfolio Software

There are several software programs available to create electronic portfolios. Your college or university may utilize one of these programs and they may even provide training in how to use the program. Many schools have students create their portfolios using standard programs that are readily available. Microsoft Office Suite includes both Word and PowerPoint that can be used to develop portfolios. These programs are easy to use, and products developed using these tools can be saved for posting to the web. Webpage composition programs such as Netscape Composer, Macromedia Dreamweaver or Microsoft FrontPage can also be used to develop web-based portfolios. Netscape Composer is a free download and very easy to use. Both Dreamweaver and Frontpage can develop much more professional looking web pages, but they are costly and more complicated to use.

Sunburst’s HyperStudio is a program that many schools own. Hyperstudio can be used by young students to develop slide-show style portfolios. Final products can be posted to the web or saved in a way that would allow any computer, even those without Hyperstudio to view the product. The advantage of using standard programs is their avail-

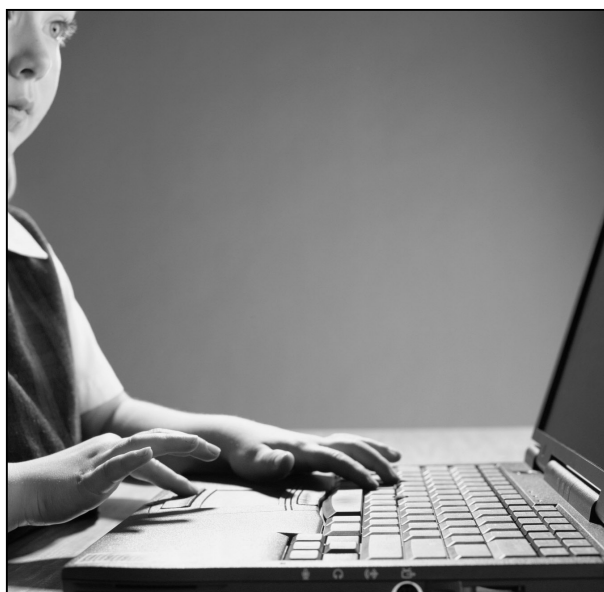
ability at college, home, and in nearly all school districts. They are also often owned by students so no additional cost is involved, nor is extensive training in their use necessary.

A webpage can be composed in Word, or any free HTML editors available on the web. If final products cannot be posted, they can be burned to CD. Some portfolios use PDF Documents (Adobe Acrobat). For a discussion of all these choices, see the article titled: *Selecting the Software and Approach to Creating an Electronic Portfolio* (Barrett, 2002). Dr. Helen Barrett's portfolio website for pre-service educators can be found at: <http://electronicportfolios.com/> and is worth a visit as this site is very comprehensive and informative.

In addition to the software used to create and organize the portfolio, learning other software may be necessary. For example, scanning software may be needed if printed photos or documents are to be digitized. Video editing software is used to edit digitized video into short clips for inclusion in a portfolio.

Portfolio Use in Student Assessment

In addition to portfolio use for pre-service teachers and other professionals, the portfolio is often used as a way to assess student work. For example, writing samples over a period of time show growth in a student's writing abilities in a way letter grades or scores cannot. The following story illustrates one use of portfolios in K-12:



Last year when my wife and I went to the parent-teacher conference for our son, James, the teacher explained that James had earned a B in English and handed us a pile of his graded papers. This year at James' parent-teacher conference, James himself demonstrated what English skills he had learned by showing us his electronic portfolio containing scanned-in compositions, pictures of his community project, a movie about him tutoring other students, an oral reflection on his government project, and more. Also, he had a screen listing skills he still needed to master. The electronic portfolio revealed much about our son's learning. (Tuttle, 1997)

Limitations of Portfolios

An electronic portfolio may be considered by some to be a more authentic assessment of learning than some other methods, such as a traditional paper test. However, portfolios may take more time to create, and government regulatory agencies have problems with portfolios because these assessments are not easily quantified. If differing artifacts are utilized, it is cost prohibitive, if not impossible, to make meaningful comparisons between students, schools, and states.

When deciding to develop a portfolio-based assessment program, schools have many things to consider. Teachers and administrators need to decide if assignments can be used

across the curriculum. If a student writes a wonderful paper in a history class, can this paper also be used in a writing portfolio? The school must also confront limitations inherent in the digitization of documents. As more and more students in more and more classrooms compile more and more data, does the school have the server space needed to accommodate it? If there are limitations to storage then the school will have to make decisions on what is not included or what is deleted and they will have to justify these decisions. How will the data be stored so that it will be easily accessible and still allow for the protection of a student's privacy? Finally, how does the school send a student's records to a new school if that school does not use portfolios? The answers to these questions are not easy, which is why portfolios are not typically used by schools as the sole source of assessment. Even the schools that use portfolios will often still include more traditional forms of assessment as well.

Use Portfolios Wisely

A final caution as this chapter concludes about the use of pre-service teacher portfolios: If you are constructing a portfolio and plan to use your portfolio for interview purposes (at least initially), make sure you have thought about how best to present your portfolio. Practice presenting the portfolio and know where everything is located for quick retrieval! Make sure you know where artifacts are located and what they are called. If you want to show an example of how you use collaborative learning in the classroom, you do not want to have to pull up several files until you find the right one. Make sure you are comfortable with the technology you have chosen. Use sound, video, graphics and special effects in moderation as appropriate to communicate educational purpose—not for their own sake.

If you are sending in your portfolio to a district on CD or you have a webpage URL that may be viewed, make sure your work is well organized and that the navigation component allow for ease of use. Do not overwhelm the viewer with lots of links on the first page or the table of contents, as it is better to group similar artifacts together under one heading. Make your portfolio attractive and eye-catching.

Finally, keep in mind that the portfolio process does not end when you get the job. Once you have a teaching position, you can start to add better artifacts to your portfolio and remove artifacts that become old and/or are less effective. Your portfolio can still be used if you ever decide to apply in a new district or if you would like to apply for another teaching position in your own district. Staying on top of the process will help when the time comes to present your portfolio again. Be prepared.



SUMMARY

An electronic portfolio is a valuable teaching tool. Pre-service teachers may want to construct a portfolio for job seeking purposes that later will be used as a record of growth and achievement when they become in-service teachers. As portfolios can be used for many purposes, including student assessment, defining the purpose of the portfolio and identifying the intended audience is paramount to creating an effective portfolio. The reflection process is necessary to understand the purpose of each artifact selected for inclusion. One effective strategy for getting a portfolio going is to start with one or two artifacts and

to continue to work on updating the portfolio regularly. Before long you will have a great portfolio that gives an in-depth look at you as an educator!



DISCUSSION QUESTIONS

1. Why are portfolios considered to be a more authentic assessment tool?
2. Which software tools would you use to create a personal portfolio? Why would you choose that tool?
3. If you were to create a portfolio as a tool for interviewing, what are three things that you would include? Why would you include these?
4. What are some of the limitations of using portfolios for assessment?



EXTENSION

1. Think about projects you have already completed in your education program. Is there anything that you have now that you can use to help you start the portfolio process? What is it and why do you think it helps to demonstrate and reflect on your teaching future?
2. Visit <http://www.coatt.org/mcoatt/portfolio/>—select a winning portfolio from the list. Why do you think this portfolio was worthy of an award? Can you find any weaknesses in this portfolio? How would you improve this portfolio?



WEBSITES

Alaska State Teaching Standards Self-Assessment for Draft Reflective Portfolio
<http://electronicportfolios.org/portfolios/howto/AKreflectiveportfolio.html>

Electronic Portfolios: Students, Teachers, and Life Long Learners

General portfolio information and links:

<http://www.eduscapes.com/tap/topic82.htm>

Kathleen Fischer's Portfolio

Portfolio example for PreK–12 Teachers

<http://durak.org/kathy/portfolio/>

Rubric for Electronic Teaching Portfolio

Portfolio evaluation tools

<http://www.uwstout.edu/soe/profdev/eportfolio/rubric.html>

Suggested Content for Pre-Service Teachers

Electronic Portfolios For Educators

<http://elearning.utsa.edu/eportfolios/preservicep2.htm#philosophy>

The Multimedia Report: Electronic Portfolios Tell a Personal Story

Software for developing electronic portfolios:

<http://www.infotoday.com/MMSchools/jan97mms/portfol.htm>

Documenting Professional Growth in the Internship:

The Professional Portfolio University of Saskatchewan Centre for School-Based Experiences (CSBE)

<http://www.usask.ca/education/csbe/portfolio.htm>



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