

# Zen and the Art of Portfolio Maintenance: Best Practices in Course Design for Supporting Long-lasting Portfolios

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**Abstract:** Teacher education courses that use portfolios can impact the ways in which teachers develop as professionals. Although the affordances of portfolios impact the professional development process of both pre-service and in-service teachers, courses that limit technology use and portfolio scope restrict the effect of these affordances. In this paper, we identify and describe seven best practices for the design of portfolio courses: peer feedback, authentic audience and assessment, diverse resources, learning by doing, open access, confidential spaces, and self-pacing. Examples of each of these best practices in action will also be provided.

## Introduction

Teacher education courses that use portfolios can impact the ways in which teachers develop as professionals. For example, pre-service teachers develop their identities by creating portfolios (Trent & Shroff, 2013; Zhou, Chye, Koh, & Chia, 2013). Furthermore, later in their professional service, teachers may use these portfolios as spaces for research, accountability, reform, and communities of practice (Autrey et al., 2005; Evans & Powell, 2007). Therefore, the design of portfolio courses, including the availability of technology in those courses, determines what kind of foundation is established for teachers' future use of portfolios (Evans & Powell, 2007).

In this paper we identify and describe seven best practices for the design of portfolio courses and provide examples and background for each. These best practices were derived from prior research about portfolios and our experience developing and teaching a portfolio course that serves as the culminating experience of two different master's programs at Michigan State University; we will refer to that course throughout this paper as *the Capstone Course*. In our paper, we will describe in detail each of the following seven best practices for portfolio courses in teacher preparation and training programs:

1. Peer feedback
2. Authentic audience and assessments
3. Diverse resources
4. Learning by doing
5. Open access
6. Confidential spaces
7. Self-pacing

## Best Practices

Portfolios vary from institution to institution, from course to course, and from context to context. As a result, we have adopted the philosophy of “pretty good practices” (Mishra, 2008). That is, examples from the Capstone Course will likely need to be adapted to the particular contexts of other portfolio courses. Nonetheless, we have found the following practices useful enough to offer them as models for other instructors.

## **Peer Feedback**

Research has shown feedback to be an important mechanism in a variety of contexts (Beason, 1993; DiPardo & Freedman, 1998; Liu & Carless, 2006; Shepard, 2000). On a basic level, peer feedback allows students to receive additional critiques with less additional effort on the part of their teachers (Reynolds, 2009). Furthermore, researchers believe that peer feedback is associated with particular benefits for both those giving and those receiving the feedback, including peers' abilities to turn assessment into a constructive experience, raise issues that an instructor would never have thought of, get classmates' attention in ways that instructors cannot, and inspire improved final products (Nicol, Thompson, & Breslin, 2013; Reynolds, 2009).

Feedback plays an especially important role in a portfolio course, and instructors should therefore take care in how they integrate feedback. Because portfolios are designed for an external audience beyond the members of the course, it is critical that portfolios be attractive and accessible. It is equally important that creators receive feedback if portfolios have weaknesses. A peer is positioned as a critical friend—someone who can provide feedback by “ask[ing] provocative questions, provid[ing] data to be examined through another lens, and offer[ing] critique of a person’s work as a friend” (Costa & Kallick, 1993, para. 5). While instructors of teacher portfolio courses can and should carry out those first two actions, they cannot be “friends” in the same way that peers can. In addition to these benefits that take place during the portfolio course, emphasis on peer feedback prepares teachers for working with their colleagues in schools (Costa & Kallick, 1993; Reynolds, 2009). These colleagues, or other people invested in education, are likely to be a part of the portfolio creators’ future audience. Since the students in a teacher portfolio course have a clear investment in education, portfolio creators’ peers can provide an accurate indication of how future audiences will react.

However, while role of the critical friend is important, it is also true that feedback should be regular and structured. Instructors may consider requiring certain types of feedback to assist with this structure; in the Capstone Course, half of every student’s weekly grade is based on individual feedback that is guided by areas of focus described by the instructional team. Students benefit when instructors set clear expectations for what kind of feedback is appropriate, both in terms of content and quality. For example, instructors in the Capstone Course provide explicit instructions on how to give feedback and provide prompts and other clear indications of what kind of feedback is expected from week to week. This ensures that each student receives quality feedback from his or her peers, while also informing the portfolio creation process of the individual giving feedback.

## **Authentic Audience and Assessment**

Authenticity is a concern of many educational environments. The rise of situated cognition and related fields has seen increasing emphasis on learning experiences and assessments that involve “wrestling with the problems of the world” (Brown, Collins, & Duguid, 1989, p. 34) rather than solving artificial problems or answering rote questions. Writing has taken a particular interest in authenticity, acknowledging that writers change their writing in response to the audience that they have in mind (Magnifico, 2010). As more writing moves online, the Internet has the potential to strengthen the relationship between writer and audience by bringing them closer together in both place and time (Magnifico, 2010).

Portfolios have a particular relationship with authenticity: One of the underlying assumptions of a portfolio is that “the richest portrayals of teacher (and student) performance are based on multiple sources of evidence collected over time in authentic settings” (Wolf, 1991, p. 130). Portfolios, which are assigned as schoolwork but which are meant to be shown outside of school settings, are theoretically one of the most authentic assessments used in teacher training programs. However, while portfolios may be theoretically grounded in authenticity, portfolio course instructors must take steps to ensure that this is also true in practice. As a result, institutions often go through several iterations of portfolio before authenticity becomes its true focus (Love, McKean, & Gathercoal, 2004).

The explicit identification and acknowledgment of an audience is an important step towards establishing authenticity (Ede & Lunsford, 1984). Classes and programs that have a specific audience in mind should spend time ensuring that portfolio creators understand and are focusing on that audience. Classes and programs with a more flexible approach to audience can nonetheless encourage students to identify an intended audience for their portfolio. In keeping with these practices, the Capstone Course encourages students to value their audience's opinions above those of the instructors. While there are obvious limits to how lenient the instructors are willing to be, we rely on this attitude to remind students that we expect them to be thinking of the world outside this course when they are creating their portfolios.

## **Diverse Resources**

Instructors of portfolio courses face the question of which technologies to include in their teaching and their students' portfolios. The reality of today's Internet means that a wide variety of constantly shifting resources are at users' disposals. Standardizing and streamlining the tools used in a teacher training course risks resulting in teachers whose familiarity with technology is too narrow to be used outside of specific contexts and too rooted in contemporary technologies to survive inevitable change (Mishra & Koehler, 2006).

If portfolios are intended to last beyond the scope and schedule of the course they are created in, standardization becomes especially problematic. Evans and Powell (2007) argued that the technologies featured in an online portfolio reflect the teaching and community values that underpin that portfolio. Because technologies are not neutral (Veletsianos & Kimmons, 2012), teachers should have the opportunity to use tools that match the values they want to incorporate in their teaching and, perhaps more importantly, should be encouraged to embrace the value of a teaching community of practice that is familiar with and adaptable to a variety of technologies. Examination of and experimentation with emerging technologies is an important step for teachers and their portfolios (Evans & Powell, 2007).

Instructors can allow for the exploration and establishment of teaching values by both permitting and requiring an expansion of the technology featured in their classes. Although instructors have a clear interest in requiring certain portfolio elements, they may also have an interest in permitting students to use any resources that help meet those requirements. For example, while the Capstone Course requires that students include a downloadable resumé as part of their portfolio, we have seen and allowed several ways of doing this, including direct PDF download links, embedded Google Docs, and embedded Scribd frames. Beyond simply permitting students to decide on (or even discover) their own online resources, instructors may also benefit from including the exploration of diverse technology resources in their assignments; for example, one of the first assignments in the Capstone Course is to make home pages in two different web platforms before picking one of them or taking another option.

## **Learning by Doing**

Despite the long history of lecture-based education, modern researchers and practitioners are increasingly considering more active course designs. Constructivist theories of learning argue that students "construct" knowledge themselves rather than receiving it fully-formed from teachers or other authority figures (Dewey, 2007). This cognitive construction of knowledge is often, especially in the case of constructionism (Papert, 1993), accompanied in research and practice by the more literal construction of artifacts associated with the concepts being learned (Kafai, 2006). Koehler and Mishra (2005) drew on constructivism and constructionism to suggest particular benefits for teachers' learning technology by doing: Designing artifacts promotes deeper knowledge of technology that teachers will be able to better apply throughout their careers.

Because a portfolio course is so heavily focused on the design of a particular artifact, learning by doing is particularly appropriate. Evans and Powell (2007) suggested an iterative, rapid-prototyping approach to building teacher communities and, by extension, community-oriented artifacts such as portfolios. This approach keeps the focus on action rather than "analysis paralysis" (p. 209) about what kind of approach or design is best. Research suggests that students approve of this kind of approach: Students in teacher portfolio courses have identified the ability to do, receive feedback, and redo as one of the most valuable features of digital portfolios, suggesting that they recognize their portfolios as a means of formative assessment (Evans & Powell, 2007; Pecheone, Pigg, Chung, & Souviney, 2005).

Although the idea behind learning by doing is simple, portfolio course instructors should give serious thought to how they will apply that practice. Depending on their level of technology experience, students in a portfolio course may need significant support to design their portfolios and may resist the focus on doing rather than learning. Fortunately, a focus on doing does not necessarily mean an absence of reading or watching, but rather moves these more traditional actions from the spotlight into a supporting role. For example, the Capstone Course provides principles of web design and support for key assignments, but students are not accountable for this information except in the way that they design their final products.

## **Open Access**

Open access is another modern educational trend with significance for portfolio courses. Open access generally refers to the unrestricted access to academic publications and is sometimes presented as a natural evolution of media in response to the evolution of Internet technologies (Pearce, Weller, Scanlon, & Ashleigh, 2010). We appropriate this term in the context of portfolios to advocate for the unrestricted access to work produced by students; just as the rise of the Internet has increased accessibility to a number of different media, it has also transformed “cumbersome to store” print portfolios (Wolf, 1991, p. 129) into artifacts that can be shared “anywhere, any time” (Love, McKean, & Gathercoal, 2004, p. 35).

We encourage open access to portfolios not only because the Internet allows students to do so easily, but also because of the role of portfolios in teacher professional development and community establishment. Encouraging future teachers to share their portfolios with a broader community helps combat concerns that teaching is an overly private practice and that the privatization of teaching begins as early as teacher training (Evans & Powell, 2007). In contrast, the portfolio is more than a means of assessment; it is also a means of gaining and sharing insights about teaching and learning, thus connecting into a larger community (Wolf & Dietz, 1998). While Wolf and Dietz acknowledge that portfolios may play a variety of roles, most of these roles involve an outside audience that needs to have open access to the portfolio for it to carry out its functions.

Instructors can ensure that students’ portfolios are openly accessible by avoiding course management systems. Portfolios hosted in course management systems are accessible only by the student and the instructor and only for as long as the institution preserves content. Instead, the Capstone Course requires students to use web platforms such as Google Sites, Weebly, or WordPress. Students then interact with each other’s portfolios by accessing them on the open Internet rather than through a course management system, and the Capstone Course instructors encourage them to share their portfolio with people outside of the course.

## **Confidential Spaces**

Portfolio courses may also benefit from offering a confidential space for feedback and discussion to take place. The previously mentioned importance of “critical friends” is due to the frustration and emotional baggage typically associated with critiques of student work (Costa & Kallick, 1993). Instructors should help students understand the importance of feedback and that it is not to be taken personally, but they should not shy away from adopting practices that make the feedback process easier on them.

Portfolio courses that implement the best practices of open access and peer feedback need to also consider student privacy as students are assessed and experience criticism. While structured feedback, as discussed earlier, should help feedback remain a positive experience, establishing a confidential space where the feedback process can take place will ensure that the class remains a private, trusting community (Reynolds, 2009).

The exact structure of these confidential spaces depends largely on the structure of the course itself. Face-to-face classes have a large number of classroom routines and traditions at their disposal, but these spaces are not limited to the classroom. The features that make course management systems poor hosts for portfolios are the same features that may make them ideal spaces for confidential critiques. Instructors and students ultimately have access to a wide range of resources (including those as simple as email) that can be used or adapted as confidential spaces. For example, the Capstone Course has retooled the question and answer service Piazza as a place for groups of students to discuss their portfolios in a password-protected web space.

## **Self-pacing**

As demand for and technology available to teacher training courses have increased in past years, institutions have increasingly considered self-paced courses as an alternative to traditional professional development (Russell, Kleiman, Carey, & Douglas, 2009). While self-pacing is not without complications, researchers have recognized that developing student autonomy can improve student motivation (Ryan & Deci, 2000).

Because they involve a number of different tasks, an element of self-pacing is particularly appropriate for portfolio courses. Creating a portfolio typically includes collecting existing artifacts, creating new artifacts, and web

design. Some students are likely to be better prepared for some of these tasks than others and will thus spend different amounts of time on different kinds of tasks. Likewise, students' varied interests and needs require different paces of work to allow for the support and feedback they need (Wolf, 1991). Although Wolf's focus is on the pace of creating a portfolio over the course of an entire program, the same is true over the course of a semester of a portfolio course. Although all portfolio courses should lend themselves to self-pacing, this approach is particularly well suited for asynchronous online courses like the Capstone Course that are not bound to meeting times or traditional class schedules.

However, because even online courses have some sort of time constraints, self-pacing is not a practice that can be introduced without significant thought and effort on the part of the instructor. Some deadlines must be set, and having students at different places in the portfolio creation process can make peer interaction difficult. A key goal for any self-pacing scheme should be to have students work with their peers who are in the same place. The Capstone Course strives for this kind of balance by setting regular deadlines but allowing students to work ahead as quickly as they want. Students are then responsible to give feedback only to the students who are at the same place or behind them in the course schedule.

## Conclusion

Portfolios have the potential to bridge teacher training and teacher practice, and the way that portfolio courses are designed plays an important role in determining if those portfolios live up to that potential. The best practices discussed in this paper—peer feedback, authentic audience and assessment, diverse resources, learning by doing, open access, confidential spaces, and self-pacing—are all intended not only to create an effective learning environment for portfolio courses but also to establish habits and attitudes that will accompany portfolio creators as they continue into their teaching careers. Although the specific application of these practices will vary based on the nature of the institution, course, and portfolio requirements, we believe that instructors who do thoughtfully apply them will find that the portfolio ceases being the symbol of the end of teacher training and starts serving as the foundation for teachers' future careers.

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