2003

Motivating students with digital portfolios

Rochelle Christine Duwa

University of Northern Iowa

Copyright ©2003 Rochelle Christine Duwa

Follow this and additional works at: https://scholarworks.uni.edu/grp

Part of the Educational Assessment, Evaluation, and Research Commons, and the Educational Psychology Commons

Let us know how access to this document benefits you

Recommended Citation

https://scholarworks.uni.edu/grp/581
Motivating students with digital portfolios

Abstract
As the drop out rates of high schools across the country reach 30 percent, the need for teachers to be able to motivate students becomes increasingly important. Alternative assessments (especially performance based) have become a popular trend in schools and have proven to give a more accurate display of students' skills and knowledge than standardized tests. This paper investigates the different kinds of digital or electronic portfolios, and the process of creating and implementing digital portfolios in order to help determine the role they could play as a method of alternative assessment as well as motivating students.
MOTIVATING STUDENTS WITH DIGITAL PORTFOLIOS

A Graduate Review

Submitted to the

Division of Educational Technology

Department of Curriculum and Instruction

In Partial Fulfillment

Of the Requirements for the Degree

Masters of Arts

UNIVERSITY OF NORTHERN IOWA

by

Rochelle Christine Duwa

June, 2003
Has been approved as meeting the research requirement for the
Degree of Master of Arts.

Date Approved

8/19/03

Terri McDonald
Graduate Faculty Reader

8/19/03

Leigh E. Zeitz
Graduate Faculty Reader

8/19/03

Rick Traw
Head, Department of Curriculum and Instruction
Abstract

As the drop out rates of high schools across the country reach 30 percent, the need for teachers to be able to motivate students becomes increasingly important. Alternative assessments (especially performance based) have become a popular trend in schools and have proven to give a more accurate display of students' skills and knowledge than standardized tests. This paper investigates the different kinds of digital or electronic portfolios, and the process of creating and implementing digital portfolios in order to help determine the role they could play as a method of alternative assessment as well as motivating students.
Introduction

Educators have made a commitment to motivate students to learn so they can create successful futures for themselves and become productive members of our society. However, motivating students to learn and produce quality work is becoming much more difficult.

An estimated 25 percent of the students in this country will drop out before high school graduation, and in some urban schools 30 percent of the students do not complete eighth grade. Many who remain are uncommitted, disengaged, and alienated (Hootstein, 1996, para. 1).

Even with an outlook like this, educators still have to believe “the intent of education is to foster students’ desire and ability to be lifelong learners” (Chuska, 1995, p. 15). The responsibility of educators, then, is to find ways to motivate students and assist them in becoming lifelong learners as well as productive citizens. In recent years, many different strategies have been presented to teachers in order to assist them in creating a more interesting, student-centered learning environment with the hope that these types of classrooms will increase motivation and help students value learning more. Alternative assessment has been tossed about as a way of improving teaching and learning. Alternative assessment has become a catchall phrase indicative of more specific terminologies such as authentic assessment, performance-based assessment, student self assessment. A common bond between these three specific types of alternative assessment is the role that technology plays or can play in generating student interest. Authentic assessments have quickly become the standard way of evaluating students. An authentic assessment “actively involves students in a process that joins what is taught, how it is
taught, and how it is evaluated” (Costa & Kallick, 1995, p. 114). The nature of today’s business and technology classrooms necessitates authentic assessments. Students need to be performing the tasks expected of them in the business world they will be entering.

Assessment that is based on performance rather than standardized tests has proven to give more accurate feedback about a student’s mastery of real life skills. Technology plays a vital role in performance-based assessment by providing teachers with the means to document all stages of a student’s development by using computers, videos, and portfolios. Portfolios are already popular in many schools, but new technologies . . . are changing the way portfolios are managed. (Bruder, 1993, para. 1)

Portfolios are ways that students can collect, organize, and assess their own learning.

While the student portfolio is already a popular way of documenting students’ learning there are some concerns:

Managing the sheer volume of material that might be collected over 12 years of school may become unwieldy. In addition, student products included artwork, videos, and other performance accomplishments. . . . Three-dimensional objects and musical and dramatic performances are student accomplishments that can be difficult and cumbersome to include in a traditional file folder portfolio. (Siegle, 2002, para. 2)

Storage continues to be a major concern with the “file folder portfolio.”

For this reason, “the use of electronic portfolios is gaining popularity as educators and business people alike are discovering their benefits as a means of validating individual performance” (Wiedmer, 1998, para. 1), and as a way of collecting,
organizing, and storing a variety of student data. Harden (2002) suggested, “E-portfolios for students could be the next big thing in campus computing” (para 3).

This paper investigates the different kinds of digital or electronic portfolios, and the process of creating and implementing digital portfolios in order to help determine the role digital portfolios could play in business and technology courses as well as in schools as a whole. While there are many questions that could be asked about digital or electronic portfolios and their importance in educating our children, this review of literature will address the following questions:

1. What are student portfolios?
2. Why use portfolios?
3. Are there different types of student portfolios?
4. What are electronic portfolios?
5. Why use electronic portfolios?
6. What is needed to create electronic portfolios?

**Methodology**

In locating sources, this author first contacted the Area Education Association office used by the school. Next, this author contacted the Media Specialist at her school, the Media Specialist found a few articles from the Internet, and then suggested two search engines that would benefit the reviewer. The Media specialist also suggested using ERIC and EBSCO; the reviewer found an overwhelming amount of information in the form of online articles. The author then had to review and choose articles that dealt specifically with the topic of digital or electronic portfolios. Some information also came from the Association for Supervision and Curriculum Development website. After
reviewing some of the articles, the author found several sources in the references pages that could be acquired and used. Other sources came from professional libraries, her own, her school, and colleagues.

Many of the sources were determined reliable because the articles were suggested by colleagues who have some knowledge about or experience with using electronic portfolios. The books chosen were written by authors who are considered to be authorities in the subject area. The articles were taken from professional journals and are backed by many worthy resources. As the reviewer was reading the sources, she found many of the same names being quoted and referred to throughout the sources.

Analysis and Discussion

What Are Student Portfolios?

Lankes (1995) stated, “A portfolio at the K-12 education level is essentially a collection of a student’s work which can be used to demonstrate his or her skills and accomplishments... portfolios exhibit the student’s efforts, progress, and achievements. The collection must include student participation in selection contents, the criteria for selection, the criteria for judging merit, and evidence of student self-reflections” (para. 2). While Lankes’ definition of the student portfolio evolved, through several years, Barrett (1998) added to this definition by, including some additional thoughts about what students and teachers can gain from the use of portfolios: “a portfolio provides a richer picture of student performance than can be gained from more traditional, objective forms of assessment” (para.2).
Why Use Portfolios?

Lankes (1995) suggested there are many things portfolios can help evaluate better than standardized tests, especially when students are involved or in control of their own artifact selection process. Teachers also benefit because they can more readily document students’ improvements in writing or mathematics throughout the year; teachers can evaluate existing portfolios of incoming students to gain a better idea of ability levels in order for placement; portfolios can be used to determine graduation eligibility, evaluation of skills, and abilities; businesses can view a student portfolio in order to evaluate a prospective employee’s work readiness skills; and colleges and universities can use portfolios to determine eligibility for admission.

When we read only one text per student, we can easily forget the complexity of the person behind the paper . . . [but through the self reflections and the sharing of the portfolio] we get a much stronger sense of contact with the person behind the texts: an author with a life history, a diversity of facets, a combination of strengths and weaknesses, someone who has good and bad days (Elbow, 1994, p. 53 cited in Boerum, 2000, pp. 235-236).

These are a few of the obvious reasons to use portfolios in education. Another major concern is that “students need to experience for themselves how systematic self-review of their efforts, performances, products, and accomplishments can have a positive impact on their learning and on their sense of self” (Costa & Kallick, 1995, p. 31). Rief (1995) reiterated this point when stating, “Until we realize the student is the best evaluator of his or her own learning, we will never know what our students really know or are able to do” (Costa & Kallick, p. 30).
When considering whether to implement portfolios into the curriculum there are several things that should be evaluated. Some key findings to consider about portfolios include:

1) Portfolios invite reflection.
2) Portfolios provide alternative means of assessment.
3) Portfolios show promise in reducing the artificiality associated with schoolwork.
4) Portfolio programs lead teachers to pursue the same activities called for from students: reflection, self-assessment, and goal setting.
5) Portfolio programs tend to be unique (Costa & Kallick, 1995, p. 206).

While the initial purpose of introducing portfolios may be to show evidence of a teachers attempt to introduce alternative assessment...

... portfolios have the power to transform the learning environment in the classrooms where they are used. The magic of portfolios lies not in the portfolios themselves, but the process used in creating them and the school culture in which documented learning is valued (Danielson & Abrutyn, 1997, para. 31).

If our society is “concerned with developing good thinkers who possess the capacity to persist in their work, thinkers who show precision in language and thought and ability to transfer and apply new thinking” then research is pointing to the fact that portfolios seem to be one way to help achieve this goal (Costa, 1991 cited in Costa, & Kallick, 1995, p. 208),
Are There Different Types of Student Portfolios?

Anyone researching the topic of portfolios will soon find that portfolios come in many forms and can serve many purposes. They may be used to show progress in learning, to showcase examples of the student’s best work, or numerous other reasons. Danielson and Arbutyn (1997) suggested nine different portfolio types: working portfolios, display portfolios, assessment portfolios, community services portfolios, interdisciplinary portfolios, subject area portfolios, admission portfolios, employment portfolios, and skill area portfolios. To these Stiggins (2001) added the following portfolios: celebration portfolio, growth portfolio, project portfolio, and the status report portfolio. Kelly (2000) suggested variations to the individual portfolio, which include: classfolio (A portfolio created for the entire class, to show visitors and to help keep track of events of the year. The class would vote or decide on the work samples that would represent their learning.), buddy judge (This portfolio would include peer evaluations on the development of the individual portfolio. The buddy judge portfolio could also include having a friend “buddy” decide between two different pieces of work to include in the portfolio.), portfolios of progression (This is a portfolio that is created to show an actual progression of work. They show a story of learning, by comparing beginning and ending work samples.), sterling portfolios (This portfolio includes only the student’s best work. The sterling portfolio doesn’t show progression only polished and mistake-free work.), kidfolios (These are for the primary grades; they allow students to construct their own portfolios. They show reflections of the students’ decision making.), and subject portfolios (These portfolios allow teachers to provide different opportunities to demonstrate their learning based on the subject matter of the class.). While there are
many different types suggested, the three major types that appear to be used in most educational settings are the working portfolio, display portfolio, and assessment portfolio suggested by Danielson and Abrutyn (1997).

*Working portfolio.* A working portfolio is considered a project “in the works.” This type of portfolio does not hold all of the student’s work regardless of quality. Rather, the working portfolio holds work that may be used later in a display or assessment portfolio. This type could be used to diagnose a student’s needs. Teachers, parents, and students alike have evidence of student strengths and weaknesses.

*Display portfolios.* A display portfolio, may be the most rewarding type, is used to display the student’s best work, or what makes them proud. Most of the artifacts include things that are collected at school, but are not limited to this, and students will often include a piece of work from outside the classroom that helps define them as students and learners. Students illustrate what they believe to be important about their learning, what they value, and what they want to show others.

*Assessment portfolios.* The main purpose of the assessment portfolio is to document what the student has learned. The content of the curriculum will be the guide to what students select for their portfolios. Reflective comments should focus on how they believe the portfolio entries demonstrate mastery of the curriculum objectives.

Although there are many names given to the different types of portfolios, the outcome of increasing student motivation and achievement is common. No matter what the name, in order to successfully integrate portfolio use into a curriculum, Stiggins (2001) suggested that teachers follow his list of key ingredients:

1) Maintain a sharp focus.
2) Rely on quality assessments.

3) Establish a solid interpersonal environment for communication.

   a) Be clear about the purpose for the portfolio.

   b) Develop a shared language.

   c) Provide opportunities to attend to the evidence of achievement.

   d) Check for understanding (pp. 472-473).

What Are Electronic Portfolios?

There are many different definitions for electronic portfolios, some short and others very long. Wiedmer (1998) suggested the following definition:

An electronic or digital portfolio is a purposeful collection of work captured by electronic means that serves as an exhibit of individual efforts, progress, and achievement in one or more areas. . . . Complete with sound and text, digital portfolios display an individual's growth over time through diagrams and drawings or other snapshots of processes and products. They also include digital video/audio testimonies or explanations by the portfolio developer or other persons (para. 4).

Electronic portfolios are used to provide information to students, parents, teachers, and members of the community about what students have learned or are able to do. They also represent a learning history.

Tuttle (1997) commented, “After teachers have established the goals and competencies, students identify their level of mastery and provide proof of learning. Since students usually select their own samples, they are responsible for selecting work that best demonstrates the richness and depth of their learning” (para. 3).
what an electronic portfolio is, one of the most important factors is that the creator is the
one who selects and describes how the artifact shows the learning that has been achieved.

**Why Use Electronic Portfolios?**

The transition to electronic portfolios is not an easy one, so there needs to be
observable benefits in order to justify the effort. Suggestions have been made that the use
of electronic portfolios leads to classrooms that are student-centered rather than teacher-
centered because students accept more responsibility. Barrett (1998) suggested the
following benefits of electronic portfolios:

1) Makes student work in many media accessible, portable, examinable, and
widely distributable; 2) Makes performances replayable and reviewable; it is
important to see more than once; 3) Hypertext links allow clear connections
between standards and portfolio artifacts; 4) Creating an electronic portfolio can
develop skills in using multimedia technologies; 5) It’s easier to manage the
portfolio process, especially storage, presentation, and duplication (para. 3).

Electronic portfolios allow students to show “wider dimensions of learning than paper-
and-pencil tests, reports, or exercises” (Tuttle, 1997, para. 5). Other benefits of electronic
portfolios are that they: foster active learning, motivate students, are instruments of
feedback, are instruments of discussion on student performance, exhibit “benchmark”
performance, are accessible, can store multiple media, are easy to upgrade, allow cross-
referencing of student work. Wiedmer (1998) offered the idea that producing electronic
portfolios “helps foster a stronger sense of personal responsibility for learning, increased
motivation to achieve results and reach goals, and a heightened interest in learning”
Motivating Students 13

With all of the suggested benefits, it appears that electronic portfolios could be an important link to creating student-centered learning environments.

Many of today's students are already quite familiar with the technologies necessary to create electronic portfolios.

A common phenomenon among most users of technology, benefits are discovered as a result of being users of technology that may not be initially obvious. . . . For those who already maintain a technological lifestyle, it may be that an electronic portfolio is a natural extension of their daily life and may be easily established.

(Galloway, 2000, para. 4)

As we move further into the computer age, the transition to using electronic portfolios should be an easy transition for students to make. Many schools already require technology-centered projects that could be included in an electronic portfolio, and with some planning, many other artifacts could easily be collected. Galloway (2000) suggested benefits very similar to those suggested earlier by Barrett (1998), but in a much shorter manner. Galloway's benefits to using portfolios included the following: a) distribution, b) quantity/economy, c) replication, d) size, e) security, f) maintenance, g) versatility, and, h) quality (para. 6-13).

Electronic portfolios can provide many advantages for the education world as well as the business world.

Some students say that the most important reason to create an electronic portfolio is that it might help in the hunt for a job. . . Administrators and faculty members say the key benefit of e-portfolios is that they can breathe new life into the
academic-advising process and help students reflect on how their disparate
activities become a well-rounded education. (Young, 2002, para. 13).

Every effort should be made by educational institutions to make the transition to the
creation and use of electronic portfolios in order to best prepare our youth in their
transition for school to the business world.

*What is Needed to Create Electronic Portfolios?*

As with any unit of instruction, planning is crucial. Niguidula (1997) suggested
for electronic portfolios to be successful and to make a significant difference in an
educational system, there are five main areas that need to be addressed and managed.
These areas are: vision, assessment, technology, logistics, and culture.

**Vision. What should a student know and be able to do?** A school must first
determine what is important for the school’s graduates to know and be able to do. Many
times this will be in line with the district goals and mission statement. The vision should
also align with the standards and benchmarks. While there are many documents this
could be tied to, the goal should be meaningful and related to the daily activities of the
students (Niguidula, 1997).

**Assessment. How can students demonstrate the school vision? Why do we collect
student work? What audiences are most important to us? How do we know what’s good?**
This area is one that is still developing, and for each school who chooses to use electronic
portfolios, they will need to find answers to these questions. Whether they decide to
allow students to evaluate themselves and celebrate their accomplishments, match
achievements against standards, use them for outside audiences, electronic portfolios can
prove to be a successful addition to the curriculum (Niguidula, 1997).
Motivating Students

Technology. What hardware, software, and networking will we need? Who are the primary users of the equipment? Who will support the system? A multimedia production station (digital portfolio station) might include the following:

A tape recorder, a microphone, an internal CD-ROM drive, a CD-ROM burner, a VCR, a laser videodisc player, a laser printer, a scanner, a camcorder, an external storage device for archiving or managing files, regular and digital cameras, enough memory to allow for storing and manipulating video footage or movies (Wiedmer, 1998, para. 13).

Schools who are already using digital portfolios successfully found that putting entries into the digital portfolio didn’t require much time, but putting artifacts that were not previously in digital form took a lot of time. So, the big issues here become time, effort, and support (Niguidula, 1997).

Logistics. When will information be digitized? Who will do it? Who will select the work? Who will reflect on the work? Creating portfolios takes student and teacher time. Students and teachers need to be involved in each step of the process. The most important thing is that students need to have time to reflect on the portfolios and their entries. In order for electronic portfolios to be successful and used (unlike many paper portfolios), schools have to find the time and the audience for presentation of the portfolios (Niguidula, 1997).

Culture. What is the culture in which the portfolio will be reviewed? A reviewer of the electronic portfolio must be willing to take the time to review the work. They must also be comfortable with the delivery form. Many people can be fooled by the appearance
of multimedia. So reviewers must be well-trained and have a predetermined criteria for evaluating the portfolios (Niguidula, 1997). Wiedmer, 1998 suggested that . . .

The developers of electronic portfolios also have an obligation and a professional responsibility to make sure that the story their portfolios tell reflects reality—that it represents a clear and accurate picture of performance. They must not use high-tech format to distort reality (para. 30).

Other authors also suggested areas to be considered that would fall into the same categories. Most importantly, if a school is going to make a successful transition to this more performance based type of assessment, they will need to make the commitment to move into the technological age and move away from the traditional forms of assessment. They will also need to start planning how parties outside the educational world may use the portfolios (Niguidula, 1997).

As educators the ideal classroom would be full of self-motivated students who are eager to learn. Parents and educators alike find that most of the time young children are eager to learn and investigate new things. “As one author puts it, ‘Rarely does one hear parents complain that their pre-schooler is ‘unmotivated’” (Raffini cited in Lumsden, 1994, para. 1). Lumsden (1994) admitted that it is unfortunate but:

As children grow, their passion for learning frequently seems to shrink. Learning often becomes associated with drudgery instead of delight. A large number of students—more than one in four—leave school before graduating. Many more are physically present in the classroom but largely mentally absent; they fail to invest themselves fully in the experience of learning. (para. 2)
Former Secretary of Education Richard Riley said, “We need to raise the standards to essentially re-invent our educational system to fit this new economy. We have too many young people coming out of high school unprepared for the real world” (Kimball & Sibley, 1997, p. 5). Research has shown that “students value learning more when they are actively engaged in construction and synthesizing knowledge with the intention of communicating in the form of projects and performances to an audience other than their own peers or teacher (Newman, Secada, & Wehlage 1995; Wiggins, 1993, cited in Boerum, 2000). Educators, no matter what or who they teach need to guide their students toward improving or creating their intrinsic motivation in order to get the most from them as students and citizens. Our challenge, as educators of the future generation, is to find new ways to motivate and keep students interested in order to best prepare them for what will be expected of them in the "real world."

When used as a form of reflection and assessment, portfolios not only offer an authentic demonstration of accomplishments but also allow students to take responsibility for the work they have done. In turn, this motivates them to accomplish more in the future. A computer based portfolio system offers many advantages for both the education and the business communities and should be a popular assessment tool in the ‘information age’ (Lankes, 1998, para. 21).

Pearlman (2002) suggested that digital portfolios “are exhibits of living documents and integrated projects that drive the self-motivated student of the new millennium” (para. 21). Asking and helping students to create digital portfolios appears to be one of the most important activities they participate in during their high school
education. Many studies have shown the skills that students can improve and acquire through this procedure are those that will be required of them to be successful and productive members of society.

Conclusions and Recommendations

As high school dropout rates rise across the country, the responsibility of educators is to find ways to motivate students and assist them in becoming lifelong learners as well as productive citizens. Many different strategies have been presented to teachers in order to assist them in creating a more interesting, student-centered learning environment. Technology has come to play a major role in generating student interest and in implementing the different strategies teachers are asked to apply in the classroom. While the “file folder portfolio” has been a popular assessment, storage, and skills presentation tool for several years, the electronic version is much more effective. Electronic portfolios make student work more accessible, reviewable, manageable, and allow students to develop many technology skills. Electronic portfolios afford teachers greater opportunities to assess knowledge and skills acquired. While electronic portfolios offer many benefits to students and teachers, these are not the only benefactors. Colleges and businesses alike will gain from the knowledge and skills students acquire.

As a high school business and technology instructor for the past seven years, the reviewer has observed a continued decrease in work ethic and motivation levels of the students in some of her courses as well as in the school. The reviewer hopes the information gained during the review of literature will aid in creating a more student-centered environment that will in turn increase motivation and work ethic (desire to learn).
The reviewer felt the benefits gained by creating electronic portfolios far outweighed the drawbacks. She plans to use the knowledge in her classroom and professionally while creating her teaching portfolio, and as a member of the technology and teacher training committees she serves on in her school district. The reviewer also believes that student creation and use of electronic portfolios will not only help to create a more student-centered learning environment, but it will also better prepare students for the world they will be entering, whether it be college or the workforce. She hopes the idea of student portfolios will be well received by her school district and they will begin to take the necessary steps to help better prepare their students for the new millennium.
References


