

Assessment and assurance of learning using e-portfolios

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ABSTRACT

Traditional paper portfolios have been used to assess student work for performance and employment purposes for decades. The advent of electronic portfolios incorporating audio, video, hyperlinked documents and scanned images takes the use of portfolios to a new level. Evaluators can use these easily accessible portfolios to gauge student performance while the portfolios themselves permit rapid and immediate inclusion and reconfiguration of portfolio data by the owner. Electronic portfolios are also useful for accreditation purposes to measure and assess student learning outcomes. Rubrics can also be incorporated into today's digital portfolios to permit fair and consistent evaluation by assessors. Numerous e-portfolio vendors currently exist and choosing the best one involves careful planning and consideration of current and future intended uses.

Keywords: e-portfolio, electronic portfolio, assessment, accreditation, rubric, LiveText

INTRODUCTION

The use of learning and career portfolios in education has been in place for many years, however only recently has this moved into the digital realm. These digital e-portfolios incorporate much of the same material as the traditional paper portfolios but may often contain items such as videos, audio files, computer programs and other items that do not lend themselves well to traditional hard copy display.

This paper will explore the use of e-portfolios in an educational environment to assess student performance, provide an electronic repertoire or resume of accomplishments as well as maintain a collection of student work which can be used for accreditation purposes and to measure and assess student learning outcomes.

ORIGIN OF THE PORTFOLIO

The concept of the portfolio has its roots in the visual and performing arts. It is a purposeful collection of student work that tells the story of student's personal self and academic achievement or growth (Jacobson, Sleicher & Maureen, 1999; Mullin, 1998; Paulson, Paulson & Meyer, 1991, Dikici, 2009). It often contains a wide range of student work collected from their best works and projects-in-progress that illustrates the creation of a product evolving through stages of conception, drafting and revision. It allows others to view a display of a student's ability. Portfolios have been used in many disciplines and their usage is growing every year.

Traditional Portfolios

Portfolios to assess creativity and giftedness have been widely accepted due to the development of well-defined procedures for use (Johnsen & Ryser, 1997, Dikici, 2009). Portfolios enable the student to control the selection of portfolio content and material and the portfolio is often used to evaluate the strengths and weaknesses of the pieces. Portfolios are also being used increasingly to emphasize a student's understanding of a subject area and as direct indicators of a student's learning experiences. Portfolios may be used to assess student learning using hands-on activities and actual application of material. Portfolios can be used in other disciplines just as they are in the performing arts. In writing, they often illustrate the range of assignments, goals, and audiences for which a student produced written material. In computer courses they assess competence in computer applications as they build working programs and integrate them. In language courses students can be taped speaking in the language to evaluate their conversational skills (Lumsden, et al., 2009).

Portfolios provide a natural medium for discussions and the customization of individual learning experiences and goals. Comprehensive portfolios, maintained over a period of time, can exhibit comparisons of student work and illustrations of growth. Portfolios can contribute to life-long learning beyond school environments (Dikici, 2009). Until recently, portfolios were largely paper-based and included hard copy documents, scanned images and other traditional forms of material. The movement into digital technology has made a new type of portfolio a reality.

Electronic Portfolios

Computer technology allows electronic portfolios (e-portfolios) to be one career tool for life-long learners in today's workplace (Lumsden, et al., 2009). Hard copy portfolios are being replaced by electronic portfolios, which are easier to manage and share with others, portable, customizable and allow access control. The ability to capture and store non-traditional items like video files, audio files, computer programs, hyperlinked documents and multi-dimensional representations affords a more complete assessment of student learning and personal growth.

Digital or e-portfolios also allow students to see their progress toward the achievement of their goals. "Digital career portfolios provide visual integration of students' knowledge, skills, and capabilities as a unique showcase to prospective employers; such portfolios also provide evidence of students' progressive development during their college careers." (Willis and Wilkie, 2009, p. 79-80). It is this progression over time that provides valuable data to assess student learning outcomes and maturity in their respective disciplines.

While students often do not understand the concept of portfolios as they are intended, they do in fact keep copies of things they have done—they just use other venues to do this such as email and learning management systems like Blackboard. The problem this presents is that accreditors and employers cannot see their portfolios. Some students even use Social Media sites like Facebook and MySpace to store information, often with less than professional results.

CONTEMPORARY APPLICATION

Many institutions have adopted e-portfolios such as Bowling Green State University and Florida State University, both of whom incorporate it into their learning portal Blackboard. Both use it in many classes, from freshman seminars to general education courses since "exposing users to this eportfolio program early on in their undergraduate education, the amount of usage increases, and the frustration in learning how to use the system is greatly reduced." (Lumsden, et al., 2009, p. 135).

The University of Tampa has, likewise, decided to incorporate e-portfolios into its curriculum and has chosen the vendor LiveText as its eportfolio provider. LiveText is given to all students free of charge and they have the option to continue to use it after they graduate provided they continue to pay the fees to LiveText. While still in its infancy with respect to adoption, LiveText has been integrated into many education, business and general education courses. In particular, it is used in the freshman level Gateways course which introduces students to college life and uses LiveText as a means to keep their work.

In the Gateways freshman orientation course students submit much of their work in the course into LiveText where it is then graded by the instructor and students can keep these items to highlight accomplishments in each of the Baccalaureate skill areas. Students are encouraged to add additional works from their other classes to round out their collection of collegiate works. Students also create a resume and plan of study in Gateways and these documents can be tweaked as students progress through their studies as shown in Figure 1 (Appendix).

e-portfolios like LiveText also allow for the creation of assignments with embedded rubrics that can be used for grading and/or course assessment purposes. Program accountability and accreditation efforts "typically encourage the creation of assignments and rubrics that are implemented consistently across a program, including multiple sections of the same course" (Strudler, and Wetzel, 2011, p. 168). Graded work can then be collected and provided to

accreditation agencies or departmental committees to assess student learning outcomes and assurance of learning. These rubrics can be mapped to individual course, departmental, collegiate or national learning outcomes as shown in Figure 2 (Appendix). The use of rubrics also provides the teacher with a consistent way to assess students' work while providing detailed feedback to the student which can be used to modify and enhance the work to showcase learning-in-progress and developmental learning (Strudler, and Wetzel, 2011).

These e-portfolios are also invaluable for instructors since they provide a repository of student work which can be used to assess student learning outcomes and share with accreditors for assurance of learning purposes, thus offering a multidimensional assessment for faculty, students, and other users (Naude, 2010; Cambridge, 2008). Since institutions are increasingly asked by accreditation agencies to focus on assurance of learning, e-portfolios provide the necessary data to measure student learning outcomes and their adoption continues to increase.

These e-portfolios serve a vital need in that all information is kept in one place and is readily accessible. Students can even issue "passes" to employers or graduate schools whom they wish to allow to view their works. Employers increasingly request proof of student learning competency and e-portfolios are an effective means to fulfill employer requests.

Incidentally, e-portfolios are also increasingly being used to assess teacher competency (Sivakumaran, T., Holland, G., and Heyning, K. (2010). The University of Tampa, for example, conducts its annual performance evaluations of faculty using LiveText. Many other institutions have begun to use e-portfolios for assessing job candidates as well as teachers seeking tenure.

The transition from a paper-based system to an electronic system is not without its challenges. The issue of security and backups are two primary areas of concern to both students and administrators. LiveText handles both of these issues by hosting the material in its data centers and providing secure username and password access to the content. Students also need not worry about their system crashing or losing their memory sticks or notebooks.

CONCLUSION

The use of e-portfolios by students and institutions is growing. Accreditation agencies, employers and even the students themselves are demanding a means to collect, categorize, and disseminate items which can be used to assess learning outcomes and student growth. Digital technologies like video files, audio files, computer programs and hyperlinked documents are increasingly being added to portfolios. The ease of which such a portfolio can be created, modified and shared are among the reasons the use of them is growing.

Costs notwithstanding, eportfolios like LiveText allow sharing of documents among faculty, staff, external constituents and even students themselves. They provide a quick, easy and secure method of document storage and facilitate life-long learning and career development. If you have not explored them yet, you owe it to yourself and your students!

APPENDIX

The screenshot shows the LiveText interface for an assignment titled "Gateways Research Paper". The interface includes a navigation bar with "Dashboard", "Courses", "Documents", "Reviews", "Forms", "Community", and "Tools". The user is logged in as "Raymond Papp (Faculty)". The assignment details are as follows:

- Title:** Gateways Research Paper
- Description:** (empty)
- Date Assigned:** Sep 18, 2012 2:00 PM
- Due Date:** Nov 27, 2012 2:00 PM
- Viewable to Students:** Yes
- Allow student to withdraw submission:** Yes
- Assessment Method:** Selected Assessment(s): Gateways - Research Paper Rubric - View | Open
- Assessment Document Viewable to Students:** No
- Assessment Type:** Summative
- Publish Grades:** Yes
- Assessment Templates:** Selected Template(s): Gateways - Research Paper (Version 3) - View | Open
- Outcomes & Standards:** Selected Outcomes & Standards: Click to view the 8 outcomes/standards

On the right side, there are sections for "FALL 2012" (with a "View Other Terms" link), "Course Sections" (listing GTW 101 - HP, HON 101 - H2, ITM 220 - D3, ITM 220 - F), "Quick Links" (Groups, Visitor Passes, File Manager), and "Support" (Faculty Online Training, Faculty FAQ, Student FAQ, support@livetext.com).

Figure 1: LiveText Assignment Feature

The screenshot shows the "Gateways - Research Paper Rubric" document. It includes an introduction, standards, and a detailed rubric table. The rubric table is as follows:

Rubric	Exceeds Expectations (3 pts)	Meets (2 pts)	Falls Below Expectations (1 pt)
Structure (1, 25%) FL-UT-BE.1 FL-UT-GTW-100.1	Insightful, connects well with paper title, understandable, appropriate for topic. Excellent transitions from point to point. Paragraphs support solid topic sentences.	Generally clear and appropriate, though may wander occasionally. Paper has a few unclear transitions, or a few paragraphs without strong topic sentences. Paper title does not connect as well with topic or is not as interesting.	Unclear, often because reference to the topic is weak or non-existent. Transitions confusing and unclear. Few topic sentences.
Research (1, 25%) FL-UT-BE.1 FL-UT-GTW-100.3	Primary source information used to clarify every point with at least one example. Examples support topic and fit within paragraph. Excellent integration of quoted material into sentences. Demonstrates an in depth understanding of the ideas in the assigned reading and critically evaluates/responds to those ideas in an analytical, persuasive manner.	Examples used to support most points. Some evidence does not support point, or may appear where inappropriate. Quotes well integrated into sentences. Demonstrates a solid understanding of the ideas in the reading material used and critically evaluates/responds to those ideas in an analytical, persuasive manner.	Very few or very weak examples. General failure to support statements, or evidence seems to support no statement. Quotes not integrated into sentences; "plopped in" in improper manner. Demonstrates little understanding of (or occasionally misreads) the ideas in the material read and does not critically evaluates/responds to those ideas in an analytical, persuasive manner.
Logic & Rhetoric (1, 25%) FL-UT-BE.1 FL-UT-	All ideas in the paper flow logically; the topic is identifiable, reasonable, and sound. The student makes novel connections to outside material (from other parts of the class, or other classes), which illuminates the topic. Creates appropriate college	Occasional insightful/logical connections to outside material made. Paper has a few unclear transitions. Mostly creates appropriate college level, academic tone. Student uses some description but more critical thought is needed.	Ideas do not flow at all, usually because there is no argument to support. Simplistic view of topic; no effort to grasp possible alternative views. Does not create appropriate college level, academic tone, and has informal language or inappropriate slang

Figure 2: Assessment using a Rubric

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