USING AN ONLINE PORTFOLIO COURSE IN ASSESSING STUDENTS' WORK

Harun YILMAZ
Virginia Tech University, USA
hayilmaz@vt.edu, harunyilmaz@gmail.com
Bulent CETINKAYA
Middle East Technical University, Turkey
bcetinka@metu.edu.tr

ABSTRACT
New developments and advancements in informational technology bring about several alternative avenues for educators to select in supporting and evaluating their students' learning. Online portfolio is a fairly new technique in this regard. As the online education grows, use of online portfolio becomes more vital for educational programs. At Virginia Tech, in the program of Instructional Technology Master's of Art Degree (ITMA), an online portfolio evaluation course is designed with the goals of reviewing and evaluating students' achievements throughout their master's degree education as well as evaluating the program itself. Evaluation standards put forward by Association for Educational Communication and Technology (AECT) are used as a framework in developing this course.

In this presentation, we first discuss types and content of portfolios and design principles for creating portfolios. Next, we describe the portfolio evaluation course and explain briefly evaluation processes involved in the course. We then discuss AECT standards and how the portfolio evaluation course was informed by these standards. Succeeding the close examination of this course and its use for the Virginia Tech case, we discuss which regulations and standards should be considered in order to successfully apply this online portfolio evaluation course in educational institutions in Turkey.

Keywords: Assessment, E-portfolio, Evaluation Standards.

INTRODUCTION

Portfolio is a fairly new concept in Higher Education in Turkey. It is commonly used in the field of financial investments and in describing an artist's collection of works. Portfolio, in general, can be defined as systematic collection of materials for a certain purpose. In the field of education, this term is regarded as collection of students' works compiled with the guidance and directions of an instructor to indicate students' academic progress and success in their learning process (Arter, Spandel, & Culham, 1995).

As for the electronic portfolio, it is a collection of students' coursework or independent studies brought together on electronic environments. These environments are typically in the form of a CD-ROM/DVD or a web site, and they are convenient for storing texts, pictures, and audiovisual files. In the United States, from a professional standpoint, portfolios are used in job market for job applications, and in higher education for the promotion of faculty members or for determining and evaluating graduate students' knowledge and skills just before they graduate. When deciding on what works would go into a portfolio, it is imperative for a person to consider principles and standards of his/her institution or organization. This notion also plays a key role in evaluating a portfolio. We will further discuss types and content of portfolios in the succeeding section.

In Turkey, graduate students are assessed based on their coursework grading and the qualifying exam results (written and oral) in order to be eligible for conducting a thesis/dissertation. Since the exams take place in a short time period, student's performance may be affected by external or internal factors including class environment and student's psychological and physical health conditions. Given that education is generally regarded as a process of bringing desired change in behaviors; in the context of graduate programs, students' academic success and progress need to be evaluated in a more comprehensive way and should be spread over a wide-ranging time period. One way of achieving this is by utilizing portfolio in the evaluation process. It is important to note here that with the use of portfolio, focus is not on how much a student knows, but what a student knows (Hebert, 1998).

Another important point that needs to be considered is that a faculty member or student has to see portfolio as a tool to demonstrate students' growth along the whole learning process. Considering the portfolio as a final product prevents us from getting desired benefits out of it. As Garthwait and Verrill (2003) put it, "e-portfolios are part of the learning process, not a result of it" (p. 23).

Developing a portfolio is a lengthy process. In spite of this, developing a portfolio indicates students' knowledge and skills on the subject at hand, and provides opportunities for students to reflect on their learning and find out about their growth (Ahn, 2004).

PORTFOLIOS: TYPES, CONTENT, AND DESIGN PRINCIPLES

Types of Portfolios

In the literature, portfolios are categorized into three main groups according to their utilization (Smith & Tillema, 1998; Winsor, Butt, & Reeves, 1999):

Portfolio for giving detailed information. This type of portfolio is a compilation of course documents and assignments that shows students' performance on graduate courses. In this type, development of a portfolio does not have to be for the purpose of learning. Students' performance in this type of portfolio is evaluated on the basis of and to the extent of which the portfolio meets standards set by the institution.

Portfolio for learning. This type of portfolio is used for proving whether the previously designated principles and standards in the program are attained or not. Compilation of documents in the portfolio in keeping with the targeted knowledge and skills has a facilitative impact on the search for alternative paths in students' future success and growth, and their decision making mechanism (Messick, 1994). Portfolio for learning has important contributions to the evaluation process in the sense that it shows if students have acquired necessary knowledge and skills.

Reflective Portfolio. This type of portfolio is composed of a collection of systematic and continuous works which is directed by a professional or a person himself/herself to improve a person's comprehension capacity. This type of portfolio possesses evidence in finding out a person's professional work experience. (Smith, 1998).

An E-portfolio Template

In this section we will present a template for an e-portfolio. Although the template presented below is primarily designed for Master's and doctoral students, its content can be modified to fit into individuals from various disciplines and different levels of academic backgrounds.

Introduction: Students should articulate their goals in developing an e-portfolio in this section. Furthermore, this section can be a good place for students to give brief information about their curriculum vitae.

Accomplishments: Students should present their achievements and accomplishments in this section. This section can include awards, grants and other credentials students have received, as well as their work experiences such as internships and assistantships. Pictures and video clips can be used to evince these accomplishments.

Educational philosophy: Students should state their educational philosophy regarding their field of study.

Projects: In this section, students should present their projects, thesis and assignments coming from independent studies or from the courses that they are taking or have taken. Presenting abstracts of these documents on a page helps people who examine the e-portfolio.

Principles and standards. In this section, principles and standards which are set by institutions that the students attend should be presented. Essentially, it can be said that this section is the most important part of an e-portfolio, because by examining this section one can understand if the students meet the existing principles and standards. In this section, the students ought to give links to their projects, thesis, and assignments that are related to each principles and standards.

Curriculum Vitae: A comprehensive curriculum vitae written chronologically should be presented in this section. The point that needs to be taken into consideration in this section is that ordering of both professional positions held and academic publications needs to be from newest to oldest.

Reflections: Projects, assignments and other studies carried out up to that time and students' thoughts related to the field that they are in should be in this section (Sivakumaran & Wishart, 2003).

Design Principles to Consider in Developing an E-Portfolio

We discussed above types and content of an e-portfolio. Another crucial point that needs to be considered when developing an e-portfolio is design principles. These are given below in order:

1. Navigation – Can you go to wherever you want? There has to be a user-friendly and easily accessible navigation to be able to access sections and pages in the e-portfolio. Links among the pages have to work flawlessly.
2. Functionality – Can you view the content? The content of an e-portfolio has to be readable and structured in a way that does not make eyes feel tired. Use of unnecessary bright writing fonts should be avoided. If the content of the portfolio requires supplementary plug-ins and programs such as Flash Drive or QuickTime, they have to be embedded and checked to see if they are running properly. Providing links to the web sites where these programs can be downloaded would also be helpful.
3. Relevance – Is the content related to the field of study? The content of projects has to be relevant to the principles and standards.
4. Amount of content – Is the content adequate and accessible. There has to be as much as necessary amount of content in the project section that covers the principles and standards.
5. Appearance – Is everything attractive? In addition to existence of necessary content, the presented content also has to attract users' attention. Same design template should be used throughout the e-portfolio, and all the pages should be linked with one another (Portfolio Evaluation Course Notes, 2007).

IMPLEMENTATION OF PORTFOLIO EVALUATION COURSE

The Instructional Technology Master's of Arts Degree (ITMA) program is a distance learning program which was established in 1998. Although it was originally designed for K-12 practitioners in the State of Virginia, currently it is a nationwide program offering the degree for students who are educators in K-12, community colleges, and higher education, as well as corporate trainers and other instructional design and development professionals outside of the academic world. Since ITMA is a distance program, all courses are offered online and students are required to take 30 credits to complete their Master's degree.

There is a two-level assessment conducted in the ITMA program to assess student's performance (ITMA, 2007).

- The course level assessment which is conducted through course-related assignments.
- The program level assessment which is conducted through a summative review of the student's electronic portfolio.

In the ITMA program the portfolio also gives students a great opportunity to demonstrate their skills and knowledge in the following areas:

- Web page creation
- Multimedia production to support student's learning
- Development of educational research
- Electronic presentation development
- Software evaluation (ITMA, 2007)

The Portfolio Evaluation/Presentation is a required course for students who complete all coursework in the ITMA program.

Adhering to a summative evaluation method, ultimate goal for this course was to be able to determine the students' achievements over a period of time, to encapsulate the development and progress, and to report the results to related stakeholders (Scriven, 1991; Shambaugh & Magliaro, 1997). Student portfolios are evaluated according to the published standards established by the Association for Educational Communications and Technology (AECT). These standards have been used by the National Council for Accreditation of Teacher Education (NCATE) to review the academic programs in the United States and are divided into five interrelated domains: design, development, utilization, management, and evaluation. Also, each domain includes sub-domains which represent the major characteristics of each domain. These domains and sub-domains are represented in Figure 1 (Seels & Richey, 1994, p. 21).

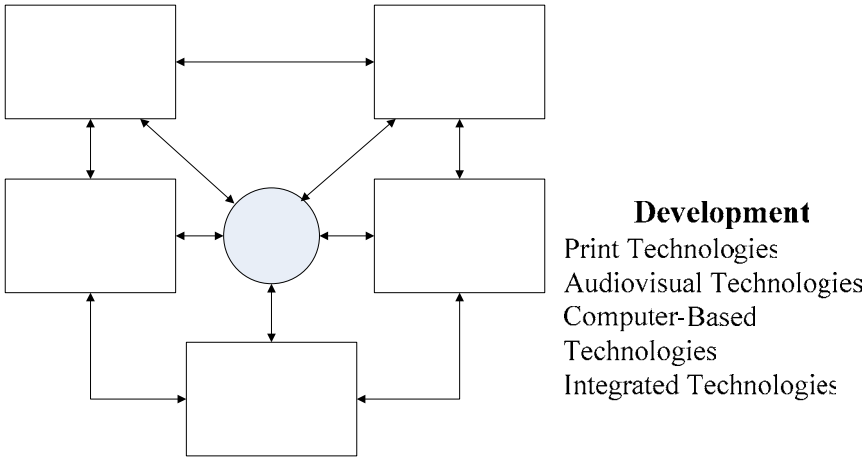

Figure 1. Domains of the field

According to Seels and Richey (1994), the design domain shows the necessary knowledge and skills for students to be able to design conditions for learning by applying principles of instructional design, message design, instructional strategies, and learner characteristics. The development domain refers to the actual creation of instructional materials and experiences, as well as products. The utilization domain includes the use of processes and resources for learning. The management domain focuses on the application of principles of projects, resources, delivery systems, and information management to the planning, organizing, coordination, and supervision of instructional technology. The evaluation domain refers to the application of the principles of problem analysis, criterion-referenced measurement, formative and summative evaluation, and techniques planning to the evaluation of the products and processes of learning.

AECT has also provided a list of indicators which are associated with these domains and their sub-domains. More information about the domains and performance indicators can be found at www.aect-members.org/standards/initstand.html. These indicators are not only used to assess student performance and whether or not they comply with the AECT standard, but also provides the ITMA program a resource to present evidence of student outcomes to the accreditation body.

In the Portfolio Evaluation course, students need to develop their own portfolios that are aligned with the guidelines, formats, and standards. In order to develop their portfolios, students should be able to use some kind of web development software such as, Dreamweaver© and Frontpage©. Once a portfolio was developed, students should submit their work to a group of peers. They are responsible for evaluating their own portfolio, as well as some of their peers' portfolios. Therefore student can take advantage of peer evaluation to modify or enhance their portfolios before the final submission to the faculty. By having peer evaluation conducted in this course, students are expected to reflect on not only how evaluation is conducted in terms of formative and summative perspectives, but also how peer evaluation assists them in identifying deficiencies in their portfolios (Topping, Smith, Swanson, & Elliot, 2000).

After peer evaluation, students have to submit their portfolios to the faculty for final evaluation. In the Portfolio Evaluation course, peer evaluation can be considered as formative evaluation which is an ongoing evaluation to revise and improve the portfolio (Scriven, 1991; Weston, Mc Alpine, & Bordonaro, 1995). On the other hand, faculty evaluation can be viewed as summative evaluation which focuses on the final product to determine what has been achieved over a period of time, to summarize the progress, and to report the findings (Scriven, 1991; Shambaugh & Magliaro, 1997). In the final evaluation, faculty members decide if students meet the portfolio requirements. If students meet the requirements, they will be awarded with Master's of Arts degree in Instructional Technology.

In the Portfolio Evaluation course, AECT standards are used as advance organizers to determine the achievement of educational objectives (Stufflebeam, 2001). Accreditation history in the United States shows that standards establishment is the foundation of accreditation (Yilmaz, 2007). Today, within the accreditation process, special attention is given to assessment of student learning and outcomes (Miller, 2000). Therefore, using AECT standards and requiring students to organize their work in the portfolio according to these standards are crucial to show the evidence of the student learning and development.

PORTFOLIO IN TURKISH EDUCATIONAL INSTITUTIONS

The use of portfolio assessment in evaluating students' learning and development in Turkish higher education at the level of a course is sporadic and only exist as an effort of individual faculty members (Gulbahar & Tinmaz, 2006). Furthermore, existing practices suffer lack of systematic implementations of portfolio assessment. On the other hand, the use of portfolio assessment is absent at the program level.

However, the recent changes in curriculum and evaluation in the pre-college education call for use of alternative assessment methods to evaluate students learning process (MEB, 2003). Exhibits, portfolios, concept maps, or oral presentations are some of these alternative assessments (Herman, 1997). In this context, the authors of this article believe that the use of portfolio in tertiary education can also bring a new perspective to the assessment of student performance. This notion is also supported by the teacher qualification indicators, which were established by an Educational Commission in 2004. This Commission was composed of representatives from the related units of the Ministry of National Education, the pool of Turkish university representatives, teachers, superintendents, and measurement and evaluation specialists. The commission identified six main qualification domains, 31 sub-domains, and total 221 qualification indicators related to these domains and sub-domains. These qualifications were designed to improve not only teacher qualifications through pre-service and in-service training, but also student achievement. Of the six main domains, one is primarily germane to our work: "Monitoring and evaluating learning and development" (MEB, 2006, p.3). Under the heading of this qualification domain, the Commission documented several indicators by placing emphasis on the use of alternative assessment tools in teaching and learning. One of the indicators specifically states that teachers should identify and use alternative assessment tools (MEB, 2006). Additionally, this indicator raises the critical need for having teachers to get familiar with and comprehend different ways of using alternative assessment tools, including portfolio in their classrooms to assess student performance.

Even though some initiatives have been started and works have already been done in the direction of bringing standards to higher education in general and teacher education in specific such as, the creation of teacher education indicators; there is still a need for comprehensive and detailed guidelines and standards, like AECT standards in different disciplines. These standards certainly should be informed by and consider both international standards, and the requisites and realities of Turkish Educational context. We also believe that establishment of discipline specific standards based on aforementioned considerations will assist us in effectively utilizing portfolio evaluation courses in the Turkish higher education system.

CONCLUSION

The traditional assessment strategies that are perceived merely as a monitoring mechanism fail to address needed skills such as, problem solving, reasoning, connections, and cooperation. In response to this problem, alternative assessments have been developed. Portfolio, particularly electronic versions, can be regarded as one of these assessments. It allows students to see and control their academic development and success rather than just showing if students reach certain criteria in a quantitative sense. Our experiences in Virginia Tech showed that students can be able to actively participate in their own learning and so that the process of attaining to higher-order thinking and universally-accepted important skills may be easier and quicker. It is undoubtedly important in this sense that Turkish higher education should learn from international experiences and knowledge base.

REFERENCE

Ahn, J. (2004). Electronic portfolios: Blending technology, accountability and assessment. *THE Journal, 31*(9), 12-18.

Arter, J. A., Spandel, V., & Culham, R. (1995). *Portfolios for assessment and instruction*. Educational Resources Information Center (ERIC) EDO-CG-95-10 Digest, Washington, D.C.

Garthwait, A., & Verrill, J. (2003). E-portfolios: Documenting student progress. *Science and Children, 40*(8), 22-27.

Gulbahar, Y., & Tinmaz, H. (2006). Implementing project-based learning and e-portfolio assessment in an undergraduate course. *Journal of Research on Technology in Education, 38*(3), 309-327.

Hebert, E. (1998). Lessons learned about student portfolios. *Phi Delta Kappa, 79*(8), 583-585.

Herman, J. L. (1997). *Large-scale assessment in support of school reform: Lessons in the search for alternative measures*. Los Angeles: National Center for Research on Evaluation, Standards, and Student Testing. Retrieved January 6, 2007, from http://www.cse.ucla.edu/CRESST/Reports/ TECH446.pdf

ITMA. (2007). ITMA Courses. Retrieved February 03, 2007 from Instructional Technology Master's of Arts Program Official Web site: http://www.itma.vt.edu/courses.htm

MEB. (2006). Öğretmenlik Mesleği Genel Yeterlikleri [General Qualifications for Teaching Profession]. Retrieved February 24, 2007, from Republic of Turkey Ministry of National Education Web site: http://oyegm.meb.gov.tr/yet/yet/grupd2. htm#d1

MEB. (2003). *Öğrenci merkezli eğitim uygulama modeli* [Student-centered teaching model]. Ankara: Millî Eğitim Basım Evi.

Messick, S. (1994). The interplay of evidence and consequences in the validation of performance assessments. *Educational Researcher, 23*(2), 13-23.

Miller, P. (2000). *Accreditation: Time for another look?* A position paper presented at the ASLA Board of Trustees Meeting, (pp. 1-12).

Portfolio Evaluation Course Notes (2007). *Instructional Technology Master's of Arts Program*. Virginia Polytechnic Institute and State University: USA.

Scriven, M. (1991). *Evaluation thesaurus*. (4th Ed.). Newbury Park, CA: Sage Publications.

Seels, B. B. & Richey, R. C. (1994). *Instructional technology: The definition and domains of the field*. Bloomington, IN: Association for Educational Communications and Technology.

Shambaugh, R. N., & Magliaro, S. G. (1997). *Mastering the possibilities: A process approach to instructional design*. Boston, MA: Allyn and Bacon.

Smith, K. (1998). Portfolios as an alternative assessment practice in higher education. In J. E. Forster (Ed.), *University Teaching*. New York: Garland.

Smith, K., & Tillema, H. H. (1998). Evaluating portfolio use as a learning tool for professionals. *Scandinavian Journal of Educational Research, 41*(2), 193-205.

Sivakumaran, T. & Wishart, B. (2003). *E-portfolio.* The University of Tennessee College of Education. Health and Human Services.

Stufflebeam, D. L. (2001). Evaluation models. *New directions for evaluation, 89*, 7–98.

Topping, K. J., Smith, E. F., Swanson, I., & Elliot, A. (2000). Formative peer assessment of academic writing between postgraduate students. *Assessment & Evaluation in Higher Education, 25*(2), 149-169.

Weston, C., Mc Alpine, L., & Bordonaro, T. (1995) A model for understanding formative evaluation in instructional design. *Educational Technology Research and Development, 43*(3), 29-48.

Winsor, P., Butt, R.L., & Reeves, H. (1999). Portraying professional development in preservice teacher education. *Teachers & Teaching, 5* (1), 33-59.

Yilmaz, H. (2007). *Identification of academic program strengths and weaknesses through use of an automated tool*. Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, Blacksburg, VA.