



TANGIBLE BENEFITS OF AN EPORTFOLIO INITIATIVE IN EARLY CHILDHOOD EDUCATION

Alper Tolga KUMTEPE , Anadolu University, Turkey

Co-authors: Şefik YAŞAR, Anadolu University, Turkey
Özlem Melek KAYA, Anadolu University, Turkey

Summary

Anadolu University College of Open Education has initiated a new ePortfolio system for its Early Childhood Education teacher Preparation Program with over 12,000 distance learners. Although majority of the classes delivered from a distance, students still need to attend some practicum classes. Students attend classes under the supervision of a master teacher, create lesson plans, and conduct activities with young children. Based on their experiences, students were expected to write a report for each activity for 24 weeks. In the new ePortfolio system, students prepared their weekly reports and uploaded them regularly. After receiving feedback from both the master teacher and the academic advisor, they had another chance for a week to revise and resubmit the report. This study examined the tangible benefits of the newly designed ePortfolio system in comparison to the current traditional mail posting system. Initial results revealed that ePortfolio decreased costs in creating and sending paper folders for students' side and in human resources and archiving for the University. In addition to the positive Return on Investment for the University, increased learner motivation, ownership of learning, regular constructive feedback and a more efficient system in general are reported by all participants at the end of the study.

Introduction

As the technological capacity goes beyond projected levels rapidly, portfolios found a new and exciting channel to grow in the electronic format. Electronic portfolio is now an invaluable means to demonstrate students' work and competencies across many disciplines. In general terms, a portfolio is a tool that represents a focused collection of student work that exhibits the student's efforts, progress, and achievements in one or more areas. A portfolio "may also contain narrative descriptions, grades or other evaluations by teachers and others, official records, student reflection or self-evaluation, responses from parents, suggestions for future work, and audio or photographic records" (Mabry, 1999, p. 17). Important features that a portfolio carries can be listed as:

- Documentation of growth over time
- Showcase accomplishments
- Written documentations (artifacts)
- Second-hand documentation (transcripts, letters, certificates)
- Indications of Reflection
- Evidence of professionalism
- Structured self-assessment
- Opportunities for creativity

Evidence that supports the use of portfolios by teachers and students have been reported by numerous researchers (Shulman, 1998; Wiggins, 1989). Yet, rapid changes in information and communication technologies (ICT) are radically effecting the nature of portfolios. Once predominantly paper-based, portfolios are now applied in digital platforms as *electronic* portfolios (ePortfolio).

With the growing numbers in people's and communities' access to the Internet and ICT, new forms for developing and publishing portfolios have emerged and fostered exciting and challenging changes to the process. Technology also transforms the definition of "portfolio" as the contents of portfolios in an electronic environment can now include digital audio, video, and animations. Many Teacher Education programs were forced to adopt electronic portfolios to meet the demand and the standards published by government agencies.

Purpose of the Study

This manuscript reports on a pilot study undertaken on an early childhood education Field Experience (Practicum) course at Anadolu University College of Open Education (COE),

Turkey. The university offers an early Childhood Education program delivered through a distance learning system. Currently 12,452 students are enrolled in the program. Students in the third and fourth year of this pre-service teacher education program (junior and senior) are required to complete significant teaching and learning experiences in schools. Third year students take a course named Field Experience and fourth year students take a course named Teaching Practice. These two courses are planned to engage students in field experiences where students are placed in schools and other educational settings for practical engagement in a variety of teaching/learning interactions. In 2009, there are a total of 5,048 students enrolled in the two experience and practice courses. Students have a chance to be actively involved in real classroom environments and practice the information they received through distance education. The program is a part of a large scale distance education system at Anadolu University and all courses are delivered from a distance. These two practicum courses offer the only opportunity for students to interact with peers in the same program, to work with experienced teachers in the field and to have a contact with young children. Practicum courses are designed to achieve the following objectives:

- to provide a sequence of experiences which build upon earlier teaching/learning achievements and articulate with other aspects of the students' course work;
- to accentuate continuing assessment and self evaluation as integral to teaching as a profession;
- to engage teacher education students, cooperating teachers and university staff in focused activities designed to foster a better insight into the teaching young children;
- to enable students develop an ability to diagnose, negotiate and act upon what is observed and experienced in and beyond classrooms;
- to offer a variety of settings in which students have an opportunity for social and professional interactions;
- and to engage students in meaningful professional competencies.

This manuscript reports findings from a pilot study designed to transfer a paper-based portfolio system to an ePortfolio initiative for distance education students. Tangible benefits of the new initiative are discussed over the traditional system.

How ePortfolio Works

Currently, Anadolu University is considered as one of the mega universities in the world, with its nearly 1.4 million students enrolled at 27 bachelors and associate degree programs. Anadolu University Open and Distance Education Project has been a success story in providing affordable, cost-effective, open-access, flexible, and high quality learning environments as a coherent alternative to confront challenges in the national higher education system. Integrating the technology into the curriculum across various disciplines, the project continues to reach a great number of learners with a learner-centered quality education. Today, around 45% of the higher education population in Turkey is in the Anadolu University distance education system. In addition to the traditional open education resources such as printed materials and radio-television broadcasts, Anadolu University open and distance education system utilizes latest information and communication technologies (ICT) to provide 16 services including e-Book, e-Television, e-Exam, e-Drill and Practice, and Videoconferences.

Anadolu University College of Open Education has initiated a new ePortfolio system in 2008 for its Early Childhood Education Teacher Preparation Program with over 12,000 distance learners. Although majority of the classes delivered through various distance teaching media, students still need to attend some practicum classes in third and fourth year of the school and they accomplish this task in cooperation with local early childhood institutions at a distance. Students attend kindergarten classes under the supervision of a master teacher, create lesson plans, and conduct activities with young children. Based on their experiences, students are expected to write a report for each activity for 24 weeks. All reports then were to send to the COE headquarters. The new initiative aimed to make the process more effective and efficient. In the new ePortfolio system, students prepare their weekly reports and uploaded them regularly.

Once students submitted their weekly report, the master teacher and an academic adviser at the college (a faculty member) provide detailed feedback on the report. Both the master teacher and the academic adviser are allowed to read each other's feedback. Furthermore, they are advised to be in accord with their review and suggestions to the student. After receiving feedback from both the master teacher and the academic advisor, students have another chance for a week to revise and resubmit the report regarding the feedback. In the previous traditional paper-based portfolio system students were expected to send 12 reports before the midterm exam and the remaining 12 reports before the final exam. Interviews with students and master teachers in the previous years revealed that students generally waited until the deadline and hurried their reports with the challenging task of recalling what took place in the first or

second week in the classroom. The ePortfolio system enabled students to regularly think and react on their weekly tasks.

Findings

The traditional paper-based portfolio system required a process summarized below:

- Students prepare and conducts and activity for young children.
- Students prepare a report about each week's activity.
- Students combine 12 weekly reports in a portfolio.
- Master teachers collect portfolios and return them to the school principle.
- School principles send portfolios to the Director of the National Education in the province.
- Directors post all portfolios collected in the province to the COE headquarters in Eskisehir.
- Academic advisors (about 25 faculty members) at Anadolu University evaluate all 5,000 portfolio folders in a month.
- Grades are released.
- 5,000 folders are archived on campus for five years.

As seen above, the paper-based portfolio system was a challenge for all stakeholders in the program. The new ePortfolio system were designed to overcome many physical and intellectual obstacles in the old system. The main focus of this paper was to discuss tangible benefits gained by the new initiative.

Cost-benefit analysis require identifying and measuring the beneficial results from a program. Benefits can be observed in two ways. Tangible benefits are those that can be measured and assigned some kind of number or Euro value. Intangible benefits are benefits that can not be measured or even quantified. The major approach to identify tangible benefits of an initiative is calculating Return on Investment (ROI) as a traditional financial measure based on historic data. Return on investment is a measure of the monetary benefits obtained by an organization over a specified time period in return for an investment in a new initiative. In other words, ROI is the extent to which the benefits (outputs) of the initiative exceed the costs (inputs). ROI can be used both to justify a planned investment and to evaluate the extent to which the desired return was achieved. However, it can not measure all aspects of educational success. Issues like whether students liked the program or not, the increased motivation and

satisfaction of students participating in the program or the extent to which students' personal objectives were achieved can not be quantified in monetary value.

To calculate monetary ROI, an organization identifies the total financial benefit drawn from a new program and then subtracts from that the total investment made to develop, produce, and deliver that program. Then, this number is divided by the total cost and multiplies by 100 to find a percentage based ROI result.

$$(\text{total benefit} - \text{total costs}) / \text{total costs} \times 100 = \text{ROI}$$

Total benefits include money saved by the organization or money made. For the ePortfolio initiative Table 1. represents costs of the paper-based and electronic systems.

Table 1.
Comparison of the costs of two systems

	Item	Cost
Paper-Based Portfolio System	Materials to create folders	10 Euros per student X 5048
	Posting folders to AU	15 Euros per box X 1008 boxes (5 folders per box)
	Storage rent for a 50 m ² space	250 Euros X 12 months X 5 years
	TOTAL	80,600 Euros
ePortfolio System	Microsoft Office SharePoint Server 2007	6000 Euros
	Microsoft SQL Server 2005	5000 Euros
	Design and development of system	50 Euros per day X 30 days
	Technical support, Maintenance and management of system (3 staff members)	75 Euros per day X 30 days X 7 months
	Web Hosting	150 Euros per month X 12 months
	TOTAL	30,050 Euros

Numbers listed in Table 1. includes development costs that will occur only at the beginning of the investment like software and hardware purchases that will be utilized for several years. Therefore, costs for years after the first one will be lower. Table 2. represents the net savings, ROIs and cumulative ROIs over a period of five years.

Table 2.

Net savings, ROIs and cumulative ROIs over a period of five years for the ePortfolio initiative

	Year					
Costs	0	1	2	3	4	5
Paper-Based	€ -	€ 80.600	€ 80.600	€ 80.600	€ 80.600	€ 80.600
ePortfolio	€ -	€ 30.050	€ 17.550	€ 17.550	€ 17.550	€ 17.550
Net savings	€ -	€ 50.550	€ 113.600	€ 176.650	€ 239.700	€ 302.750
ROI	0%	68%	259%	259%	259%	259%
Cumulative ROI			547%	907%	1266%	1625%

As seen in two tables above, the new ePortfolio initiative resulted in positive ROIs starting from the first year.

In addition to the monetary value, there have been other intangible benefits of the ePortfolio system reported by the stakeholders:

- A digital archive and an ePortfolio are developed, owned and controlled by the university.
- The ePortfolio system has the capacity to maintain a complete inventory of skills and knowledge acquired by the student.
- The content of the ePortfolio is current, accurate, verifiable, and flexible. Changes in the curriculum can be easily adopted by the system.
- Students find it useful with explicit instructions and examples, a calendar, and professional assistance if required. The ePortfolio is reported to be easy to access, use, and modify by students and master teachers.
- The ePortfolio and archive have the capacity to incorporate a variety of media including audio, video, and text.
- The ePortfolio system is multi-purpose, customizable, and adaptable to various uses.

- The ePortfolio system encourages and enables students to be more creative.
- The ePortfolio system provides secure long-term storage, privacy, access, and ongoing support.
- Students reported that they “*felt like a student for the first time*” in a distance education system that heavily depends on print-materials.

Conclusion

This study examined the tangible benefits of the newly designed ePortfolio system in comparison to the previous traditional mail posting system. Initial results revealed that ePortfolio decreased costs in creating and sending paper folders for students' side and in human resources and archiving for the University. In addition to the positive Return on Investment for the University, increased learner motivation, ownership of learning, regular constructive feedback and a more efficient system in general are reported by all participants at the end of the study. This project has been an attempt to widen social services and leadership of Anadolu University in meeting the needs of masses in a new arena with the facilities at hand.

References

- Mabry, L.(1999). *Portfolio plus: A critical guide to alternative assessment*. Thousand Oaks: Corwin.
- Shulman, L. (1998). Teacher Portfolios: A Theoretical Activity. In N. Lyons (ed.) *With Portfolio in Hand*. (pp. 23-37). New York: Teachers College.
- Wiggins, G. (1989). A true test: Toward more authentic and equitable assessment. *Phi Delta Kappan*, 70, 703-713.