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Experimental Studies on Electronic Portfolios in Turkey: A Literature Review

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Abstract

In this study, a literature review was conducted about an individual's selected efforts, products stored in electronic format, and electronic portfolios that reflect the development and capacity of multimedia systems. In this context, relevant experimental studies performed in Turkey are collected to show e-portfolio application forms, their development, and to provide information about current activities for the use of e-portfolios. When the results of studies on e-portfolios are examined, it was determined achievement, attitude, creativity skills, application skills, etc. about e-portfolio application users caused an increase in the positive direction in many variables to reveal various features of e-portfolios. Users' opinions have been positive.

Key words: Electronic portfolio; Alternative assessment; Technology

Introduction

In students' evaluation in the center of the education system, the extent these individuals' predetermined goals and behaviors reached is measured. According to traditional evaluation approaches, whether students have reached the determined gains or not, with a definitive statement language (successful, failed, and passed) is expressed. In this assessment approach, the final evaluation made in the student's learning process is neglected. For this reason, to make a more comprehensive evaluation, an assessment that includes the evaluation process is needed to better link the student with what is learned from real life experiences and taught in the classroom for performance-based assessment (Atılgan, Kan, & Dogan, 2009; Demirel, 2007). As a requirement of this need, in time new searches and various changes have emerged in the field of evaluation (Altun & Olkun, 2005). 'Alternative assessment approaches', is a common name for the method that utilizes results and the evaluation process together. Self-assessment, peer assessment, performance assessment, authentic assessment, portfolio assessment, and project-based assessment are the assessments imposed under this approach. At the same time, alternative assessment approaches is not an approach that excludes the traditional evaluation approaches and cannot be used instead., It should not be forgotten alternative assessment approaches is the complementary nature to traditional evaluation (Atılgan, Kan, & Dogan, 2009; Korkmaz, 2004). As one of the alternative assessment methods, the portfolio assessment has become synonymous with the concept of alternative assessment. It is even used instead of performance-based assessment, the summative evaluation, and the alternative assessment.

Portfolio can be described as a teaching and assessment tool that brings the works of students together with a purpose to enable them to monitor their development and progress. The concept of portfolio comes from the Latin word 'portare' meaning to move and 'folio' meaning sheets of paper (Sharp, 1997). This concept in the educational literature is called different expressions, such as "student progress file," "product selection file," "individual development file," and "educational development file." The Ministry of Education also used the "student progress file" expression in an attempt to expand the portfolio with the new curriculum in 2005. Both, in the need to use alternative assessment approaches and the need to integrate our educational technology system in accordance with the development of the era, have come out as the need for electronic portfolios (e-portfolio). E-portfolios are the multimedia systems that reflect a person's development and capacity, selected efforts, and products stored in electronic format. The e-portfolio has become a very effective teaching and assessment tool as a result of unification of the advantages of computer. The web environment has complementary evaluation approaches, in general, and advantages of the portfolio method, in particular, integrating it into Turkey's educational system will surely raise the quality of education (Alan, 2014). E-portfolio is also like a portfolio—an integrated, efficient approach that can be used both as an educational method and an assessment tool.

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An e-portfolio is a collection of what students form in the learning process and choose one from those they store in digital media. Using this system, students load the products they create onto a web site with the assistance of the Internet. In this way, there are many advantages different from the conventional portfolio system, such as students can access their work from anywhere and at any time. Also, students can use more multimedia elements that appeal to other types of media, such as video, rich text, images, sounds; students do not depend upon the paper environment and have the ability to store their work for a long time; easy sharing of work between students through a virtual environment; and easy monitoring and evaluation by parents and educators.

Since the 1970s, various studies and applications on e-portfolios are encountered abroad (Demirli, 2007). However, this type of assessment was introduced in Turkey after the 2000s. After 2005, with the start of new training programs in portfolio assessment, use of the e-portfolio system in private schools was introduced to the agenda. In state schools, because the students were unable to afford computers, e-portfolios were dropped from the agenda. Insufficient time was provided for students to work on portfolios. Also, they were introduced only for control by the education inspectors. Therefore, the e-portfolio system could not be attained and was dropped from the curriculum. Some pilot studies created an infrastructure for e-portfolios in preparation for blog sites, forum sites, and use of free and open source e-portfolio software as possible solutions. However, these types of solutions appeared insufficient to meet the educational needs. Therefore, especially for students whose computers skills were at a low level, such as elementary school students, a wide variety of media types revealed products that conformed to current technology e-portfolio software (Alan, 2014).

In this study, experimental studies made on e-portfolio were combined and studied in various respects. Both thesis and article or report formats are prepared. Only the thesis is more comprehensive. Thus, to provide information about the application of e-portfolios in Turkey and its development, related literature was reviewed.

Related Literature

This section provides several studies and their results from 2002 to date. Various studies have been completed in Turkey at various institutions to demonstrate the advantages and disadvantages of e-portfolios in the classroom during this timeframe. Intended for use in an academic literacy course, Sanalan (2002) conducted a study with a web-based assessment system at a university in the United States. The research group took certain TOEFL level test scores from different countries for 14 undergraduate students from various departments admitted to a university. After a 14-week training period, nine- and three-day study summaries were collected from these students. Microsoft Access database software for the e-portfolio software environment and a webpage creation feature from this software were used. Researchers put forth an e-portfolio design, usage, features, and results of students' evaluation. The results about the use of e-portfolio in the classroom, and its advantages and disadvantages were argued.

Baki and Birgin (2004) used a math lesson as an alternative assessment tool, which was a computer-assisted personal development file (BDBGD) and its applicability within the education system. This study took place during the 2002–2003 academic year in Trabzon, by two teachers who worked in two different schools in their classes. Using e-portfolio software developed by the researcher and his team, the individual development files were determined more efficient than conventional methods in terms of student's performance evaluations. Additionally, students were offered the opportunity to evaluate their performances. Moreover BDBGD improved the communications among students, parents, and teachers, which allowed parents to actively participate in the evaluation process.

In his thesis, Özyenginer (2006) noted students, in Vocational High School in the Department of Computers who utilized their computers / hardware lessons, related opinions and successes on electronic portfolio preparation, writing statements that reflect the portfolio, and portfolio evaluations. Research at the Buca Anatolian Vocational High School in the Department of Computers was conducted during the 2005–2006 academic year. There was a second class of 28 students studying on courses in computer hardware. The e-portfolio software environment used was Microsoft Office PowerPoint. As a result of his research, it was observed that students made research, learned new concepts, self-esteem, self-assessment of learning, use of time, feel responsible for their work, and developed skills related to creativity. In addition, e-portfolio motivated students to interact with teachers and felt a need for their ideas to be evaluated within the course, Özyenginer concluded the students were completing courses more willingly.

Demirli (2007) studied the effects of e-portfolio learners' attitudes and perceptions of the teaching process. His research was conducted on 33 in the Technical Education Faculty. E-portfolio software was used as a web-based environment developed by the researcher. At the end of the study, students from many perspectives found the process of e-portfolio teaching interesting and developed positive attitudes towards the process. Moreover, the courses taught using e-portfolios observed students have a learner-centered attitude, and have made in-depth, accurate concepts.

Çayırıcı (2007) completed a project to determine the effects of a web-based, portfolio site on 7th grade students' verbal and numerical courses. It was conducted on 67 students from the Marmara Region on social studies and science courses. For the e-portfolio software environment, Çayırıcı used the website he developed. At the end of the study, the results showed positive effects for both verbal and numerical courses, and students' attitudes towards these courses showed positive effects as well.

Arap (2008) completed a project to discover the contributions of electronic portfolio (e-portfolio) application for English teachers and to determine if it has any effects on achievement scores. The project was conducted on 44 English teacher candidates, who are interns in state schools, studying in Mersin University, Department of Foreign Language Education during the 2006–2007 academic year. In an e-portfolio software environment, the free, easy website creation tool on Google Page Creator Google Sites is used. At the end of the study, the practice of e-portfolios for English teachers produced positive effects, including positive achievement scores.

Erice (2008) used an electronic portfolio to determine the effects of English language skills for students with an intermediate level on writing skills. Students in the electronic portfolio group showed students who keep portfolios are more successful. An e-portfolio software environment, Dokeos, was the web-based e-learning platform utilized. At the end of Erice's study, the digital environment for second language writing skills contributed positively to the computing experience and using a computer affected the user's attitudes towards computers, especially towards reducing anxiety levels.

Döşlü's (2009) research included 77 tenth grade students from four different classes of an Information and Communication Technologies course in the district of Adana Pozanti, who studied at Martyrs Victory Sabancı High School. This study was to determine attitudes toward teaching students the e-portfolio process, and also to observe and evaluate whether students can prepare a web-based portfolio. The e-portfolio software environment has a free blog site to provide web services (blogcu.com). At the end of the study, students' attitudes were determined positively affected by the e-portfolio. Furthermore, by utilizing the web-based portfolio method, the students' success was favorably influenced. Also, students achieved a high rate of positive findings from the students' views on the subject.

Tonbul (2009), in his project entitled, "An E-Portfolio Model for Students of Department of English Language Teaching, Gazi University," studied the perceptions and attitudes of the electronic portfolio as a learning and assessment tool for students of English Language Teaching. His study sought to determine the experiences regarding the electronic portfolio development and to propose an electronic portfolio model for the educators and students. The designs of the electronic portfolio and its practice in the classroom are the basic topics for the project with 26 students attending the English Teaching Department of Gazi University. For Tonbul's study, participants spent two months to develop an electronic portfolio application. E-portfolio software environment for personal blog sites from Microsoft Corporation (MSN Spaces) was used. At the end of the research, students liked e-portfolio practice, and student-teacher and student-student interactions using their e-portfolios were effective. In the process of preparing the e-portfolio, it was observed that writing skills developed. Moreover, it was difficult to provide good Internet access to create good e-portfolio that took longer to prepare and student's evaluations of each other might have created some problems.

Koç (2010), in the acquisition of computer literacy skills, studied the e-portfolio process on learner's performances and its effects towards attitudes. This study was conducted with 69 first year students registered in a Computer-I course from Erzincan University, Faculty of Education, and the Department of Primary School Education. In an e-portfolio software environment, a European web-based portal named "E-Portfolio Process in Vocational Education" was developed under the project and utilized. At the end of the research, e-portfolio in the usage of computer literacy teaching did not show any effect on students' theoretical knowledge, but was effective in the development of practical skills. Also, the study revealed students' self-assessment was positive. Moreover, the process provided students with a sense of responsibility and contributed towards organization.

Taking into consideration the interest of youths towards the computer and Internet, Ogmen (2011) developed a more current vocabulary learning tool to help students improve their vocabulary learning strategies. Ogmen

aimed to raise the level of learner autonomy by requesting 89 students from 9th grade high school to utilize a word e-portfolio for 24 weeks. Before and after use of participatory strategies to determine if there was a change in the levels of learner autonomy, a poll was provided to participants before and after the study. Finally, the students were asked to register in a distance education platform. They utilized the e-portfolio software environment, Dokeos, a web-based e-learning. To follow the process, research logs were retained and interviews were conducted with the active participants. At the end of the research period, 67% of the participants were interested in e-portfolios. For assignments based on computer use, the participants paid more attention to using the words they learned during the course. Also, participants obtained some new strategies, which means new words from the applied learning e-portfolio. This made them develop more word strategies and had positive effects for creating learner autonomy.

Özgür and Kaya (2011), the name of the project is "The Management Aspect of the E-Portfolio as an Assessment Tool: Sample of Anatolian University", in 2008-2009 academic year, a distance education program serving approximately 12,000 students, Eskisehir Anatolian University Open Education Faculty, the design of the e-portfolio system which was developed for the students of Pre-School Education Department, the students, have conducted a study on the management, implementation and evaluation. As the e-portfolio software environment a web-based developed environment is used in the Anatolian University. According to the result of the research and university staff, e-portfolio's dynamism, ease of planning and organization has put forth that it has a good working environment to share the recommendations, ideas and criticisms for the participants of the application.

Akdoğan Yeşilova (2011), in his doctoral thesis, provided observations regarding the process of preparing electronic portfolios for 35 7th grade students' learning styles, attending Ülkü Primary School. Using their e-portfolios, students delivered electronic presentations prepared with Microsoft PowerPoint software. The study found, even though students were a bit lazy in the beginning, their attitudes changed during the process. These students described the e-portfolio as exciting and fun, and added it made them learn new things in a fun way. Looking at the students' performances at the conclusion of the study, the students exhibited various learning styles. The group with the highest performance was the largest group of visual learners, followed by kinesthetic and visual learners.

Aktay's (2011) project, "Web-Based Primary Portfolio (Webfolio) Application," aimed to analyze the functionality of e-portfolio application completed in primary schools with a group of 18 students from the 4/C class of MAT-FKB attending Eskisehir Provincial Directorate of Education Special Developmental School. The application was conducted in Science and Technology, Mathematics, Social Studies, and Turkish courses. Using e-portfolio software in a web-based environment developed by Aktay, it was observed the students thought the web folio system for sharing communications, and peer assessment provided convenience in handling issues. With regard to students' e-portfolio processes, it was both safety and fun, and increased cooperation between students. Aktay's study determined the web folio system was more effective from the traditional portfolio.

Bariş' (2011) thesis investigated the availability of e-portfolio activity on a social networking site and analyzed how the e-portfolio evaluation process affected students' success. Participants were 202 students in the 10th grade, studying at the Technical High and Vocational High schools in Tekirdağ. The e-portfolio software environment on a social networking platform, Facebook, was utilized, using software developed by Bariş. This study determined the e-portfolio assisted education to positively affect students' successes. Also, students' attitudes changed in a positive direction. Moreover, the use of social networking in education developed communications between teacher-student and student-student, improved learning responsibilities, and in terms of changing the intended use of social networking initiated positive consequences.

Dağ (2011) completed a study in a primary school in the province of Trabzon to determine the effects of using the web environment in fifth grade students' math lessons. By creating a homework site, assignments were provided to students in the on-line environment. Thirty-three fifth grade students shared their homework using the web environment and the teachers provided feedback using the web environment. Its impact on increasing motivation towards mathematics was observed. Dağ developed the e-portfolio software environment, a web-based dynamic assessment system. According to results, in addition to traditional training to use the web environment, the fifth grade students learning mathematics were affected positively and increased their interests in the course. In addition, feedback provided by the teacher noted the e-portfolio had a positive impact on students. Thus, the e-portfolio encouraged students to learn the course better, especially when reviewing the topics and requesting further information to understand the topics.

Yastıbaş (2013) utilized an electronic portfolio with 17 students from English Preparatory Department at Zirve University to assess speaking skills and whether it can be used for writing skills. This application determined if it was beneficial to students' attitudes towards speaking skills and if beneficial, how much? Yastıbaş utilized an e-portfolio software environment web-based e-learning and course method tools (lore.com) for eight weeks. At the conclusion of the study, data were analyzed using content analysis method. This study determined the electronic portfolio can be used for speaking skills' purposes in evaluation. Also, the attitudes towards the students' speaking skills were affected positively and showed improvement. According to study results, the students improved their speaking, grammar, pronunciation, and vocabulary, and now they feel more efficient.

Conclusions

In these studies, the e-portfolio was developed from a variety of office software as a software environment, such as e-learning portals, blogs, websites, social networking sites, desktop software by the researchers. Various websites features were used in many environments. The diversity of these environments, while enriching the e-portfolio areas, also provided convenience for interactions and communications in the use of web-based portals. Finally, e-portfolios also raise the suitability of current technology methods.

When the conclusions of these studies are analyzed, the users of the e-portfolio environment had many positive remarks, such as academic achievement, attitudes towards the course, sense of responsibility, creativity skills, and practical skills. Moreover, with regard to user applications, it was observed e-portfolios put forth positive opinions to highlight various features of the e-portfolio.

As can be seen through these various studies, e-portfolio applications have many positive contributions both in teaching and evaluation. For this reason, to fully integrate this system into the Turkish education system, it is necessary to attain a better quality of construction in our education system.

Notes

This paper is resulted from the doctoral (PhD) thesis study of the first author.

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