A reflection of preservice teachers on e-portfolio assessment

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Abstract

E-portfolio assessment is getting more important as online teaching and learning activities are disseminating into instructional processes. Preservice teachers, as the current students and prospective teachers, must possess enough level of skills, abilities, and knowledge on e-portfolio development stages including their preparation, development and evaluation. Therefore, this study aims to gather the ideas of preservice teachers (n=42) from Computer Education and Instructional Technology department who are quite familiar with different technologies. Before and after they actually develop their own e-portfolios, preservice teachers asked several open-ended questions about e-portfolios. Pre and post assessment were analyzed with qualitative data analysis. Results showed that preservice teachers perceive e-portfolios as a context for publishing their work (assignments, projects, and etc…) especially yielded from project based courses. Preservice teachers are divided into three groups with respect to the focus of e-portfolio assessment; only product oriented, only process oriented and both process and product oriented decision making. In subsequent to their e-portfolio development, the process of creating e-portfolios has been reshaped in students’ minds from content-to-context to context-to-content. Preservice teachers noted that evaluation of an e-portfolio should mostly concentrate on its visual design, its embedded content and its usability. Although students reported that their skills and abilities extended with e-portfolio development, preparation of e-portfolio websites was defined as the challenge.

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1. Introduction

As the technology evolves, we have started to realize how technology affects our daily lives and their inner dynamics. In that sense, researchers have concentrated on how we can take the advantage of technology in relation to the basic and vital needs of human. Learning and teaching process is also affected by these immense researches and innovative efforts are taken place in the education scene. Educational specialists, academicians, teachers, students, and families have commented on how the learning-teaching process has been altered due to the technological developments. New theories of instruction, modern teaching methods, alternative classroom designs,
and so forth have been appeared in the literature. In parallel to instructional developments, new evaluation methods have also been designed and implemented in modern educational settings.

E-portfolio is one of the newest evaluation techniques for new learning environments in which students show their artifacts, products and projects as an indication of their functional learning. Especially for the project-based learning method, e-portfolio is one of the best assessment techniques (Gulbahar & Tinmaz, 2006). An e-portfolio is a collection of texts, graphics, or multimedia components organized in a Web site or a CD-ROM or a DVD. E-portfolios are getting popular in different educational settings since they encourage students’ reflections and mostly involve the share of ideas and provide feedback. In e-portfolio development, students are the active member of content creation and selection (Tezci & Dikici, 2006). E-portfolios use “…hypertext links to organize the material, connecting evidence to appropriate outcomes, goals or standards” (Barrett, 2005, p. 5). E-portfolios could be used for different purposes; observation of personal development, presentation of products and assessments (Mason, Pegler & Weller, 2004). Lind (2007) notifies that e-portfolios have the potential to assist preservice teachers in education faculties for increasing their technology related skills and abilities in addition to their reflective thinking about teaching practices. Besides, e-portfolios are not only for students but also for their teachers (Tezci & Dikici, 2006).

There are several studies on using e-portfolios for evaluation and assessment activities which demonstrate how much e-portfolios create positive outcomes. The study results of Gulbahar and Tinmaz (2006) showed that use of e-portfolios assisted students to overcome their anxiety and augment their confidence levels. Moreover, study participants liked the e-portfolio assessment system integrated into their courses. Akçıl and Arap (2009) summarize their study that all learners liked the use of e-portfolio where more permanent knowledge occurred at the end of the e-portfolio process.

Carney (2004) concludes from seven cases studies that e-portfolios of preservice teachers are their self-portrayal as a teacher showing their philosophies of education. Montgomery (2003) also highlights that e-portfolios are important vehicles for supporting learners’ reflective thinking. Kocoglu (2008) stated that e-portfolios are important tools for preservice teachers for enhancing their professional activities. E-portfolio assessment supports critical thinking of learners with reflective thinking actions (Lynch & Purnawarman, 2004). Thus, as the online instructional activities triggered by innovative technologies, it is indispensable that educators should take advantage of e-portfolio assessments (Yilmaz, & Çetinkaya, 2007).

2. Method

2.1. Participants

This study was conducted in a private university at department of “Computer Education and Instructional Technology” in the “Teaching Methods – I” course with third grade students (N=42, 26 female and 16 male) with an average age of 23. From pre-test, only four participants stated that they used and developed e-portfolios earlier than the course.

2. 2. Design of the Study and Instrumentation

The “Teaching Methods – I” course is about the concepts of method and teaching strategies, different methods of instruction and teaching as applied to computer education and a special emphasis on computer education at secondary education and special teaching methods using technology. Students were expected to deliver an e-portfolio on their personal web-pages provided by university. In e-portfolio, they published their assignments, a unit plan, their presentations, CV and the other things that they want to add. They prepared all these elements through the semester. At the last three weeks of semester, they prepared an e-portfolio web site to upload all these materials. Before they had started to prepare e-portfolios, they were provided with some open-ended questions to ask their views about e-portfolios including the purpose of e-portfolios and the differences with respect to other web sites,
their predictions about producing e-portfolios and its usage in schools, and so on. At the end of the semester, they were given similar questions to collect their experiences about design and development of the e-portfolio process.

3. Findings

After basic demographic questions, students were provided with same open-ended questions at the beginning and the last weeks of the semester. The initial question was about the purpose of e-portfolios from students’ perspectives (n=42). Generally students related e-portfolios with broadcasting online about publishing your work (n=14 pretest, n=22 posttest), your personal information (n=13 pretest, n=19 posttest), your assignments (n=12 pretest, n=5 posttest), your projects (n=10 pretest, n=5 posttest), and your attended activities (n=2 pretest, n=2 posttest). Moreover, students stated that e-portfolios are designed for observing personal development (n=9 pretest, n=8 posttest).

Researchers revealed some less frequently stated purposes of e-portfolios; archiving (n=2 pretest, n=1 posttest), being like a visual CV (n=2 pretest, n=2 posttest), using as a reference for prospective job (n=1 pretest, n=1 posttest), one’s self-perception about his/her development (n=0 pretest, n=2 posttest), free platform to introduce yourself (n=1 pretest, n=1 posttest).

Second question was about how students perceive the differences between a regular website and an e-portfolio website. Students reported that e-portfolio is more personal (n=16 pretest, n=26 posttest), has personal products (n=8 pretest, n=17 posttest) and shows personal development (n=4 pretest, n=9 posttest). In subsequent to their e-portfolio developments, students highlighted more on “personal” nature of e-portfolios.

Furthermore, in comparison to websites, e-portfolio has no advertisements (n=3 pretest, n=1 posttest) or commercial concerns (n=0 pretest, n=1 posttest). Besides e-portfolio is education oriented (n=2 pretest, n=6 posttest) and is more planned (n=2 pretest, n=0 posttest) and more official (n=2 pretest, n=1 posttest).

Third question was related with e-portfolio and its adaptability into different courses. Students reported that all courses with project based evaluation (n=36 pretest, n=26 posttest) or inquiry based learning (n=2 pretest, n=2 posttest) could use e-portfolios. Additionally, students thought that verbal knowledge oriented courses might utilize e-portfolio systems (n=6 pretest, n=9 posttest) for assessments. One student noted that e-portfolio is more adaptable for higher education.

The fourth question was about e-portfolio should focus on whether the product or process in evaluation. Mostly students pointed that e-portfolio evaluation should concentrate on products (n=17 pretest, n=17 posttest), because education focuses on results (n=1 pretest, n=0 posttest). Afterwards, students remarked that e-portfolio assessments should take process into consideration (n=13 pretest, n=9 posttest), e-portfolio pays attention to personal development of a person through his/her learning (n=4 pretest, n=7 posttest). On the other hand, some students emphasized that e-portfolio should focus on both product and process simultaneously (n=11 pretest, n=14 posttest). Because it was believed that if the process is effective, then the products will be in a good quality (n=2 pretest, n=1 posttest).

The fifth question was asked in two different forms; predicting the e-portfolio development process at the beginning of the semester and reporting how students proceeded in the e-portfolio development at the end of the semester. Occurring themes where gathered under same categories. First of all, students defined the procedure as a difficult process (n=4 pretest, n=4 posttest). Students stated that they must decide on which software they would use for e-portfolio development (n=2 pretest, n=1 posttest). There observed a controversial situation in regarding with the developmental process. In the pretest, none of the students noted that we should design the documents initially and prepare the web context afterwards, whereas twelve students defined the process in that way. On the contrary, most of the students declared that they designed the web pages first and then they uploaded their documents (n=8 pretest, n=20 posttest).

The sixth question asked about how e-portfolio websites should be evaluated in general. Most of the students focused on visual design (n=26 pretest, n=27 posttest) including colors used in e-portfolios (n=2 pretest, n=2 posttest). Moreover, students emphasized content as another evaluation criteria (n=15 pretest, n=20 posttest).
together with credibility of content (n=2 pretest, n=3 posttest) and its hierarchical structure (n=5 pretest, n=1 posttest). Additionally, usability of e-portfolio system (n=11 pretest, n=9 posttest), maintenance of links within e-portfolio (n=7 pretest, n=6 posttest), accessibility of the e-portfolios (n=2 pretest, n=4 posttest) and loading performance of e-portfolio systems (n=1 pretest, n=3 posttest).

The seventh question was asked in two forms; predicting the possible challenges that an e-portfolio developer could experience and their experiences during their own personal e-portfolio development process. Generally students reported problems in relation to websites preparation (n=16 pretest, n=11 posttest) together with software (n=6 pretest, n=5 posttest) and web browsers (n=3 pretest, n=0 posttest). Furthermore, students complained about challenges about content development for e-portfolio (n=8 pretest, n=6 posttest). Some students provided ambiguous challenges under the name of technical problems (n=7 pretest, n=9 posttest). Besides, students noted that uploading of the web system could be a problem (n=7 pretest, n=10 posttest). Lastly, students believed that applying visual design principles could be a challenge for them (n=5 pretest, n=1 posttest) and time was another concern (n=1 pretest, n=1 posttest).

The last question was about whether or not students developed some skills and abilities during e-portfolio development progress. Most of the students agreed that they developed skills and abilities (n=30 pretest, n=32 posttest) namely as; web site development (n=14 pretest, n=16 posttest), portfolio preparation (n=6 pretest, n=9 posttest), introducing yourself (n=1 pretest, n=5 posttest) and presenting content (n=1 pretest, n=2 posttest). Very few students noted that they didn’t develop any skills and abilities during the process (n=1 pretest, n=4 posttest).

4. Discussions & Recommendations

Preservice teachers specified that e-portfolio assessment is more suitable for the project-based evaluation oriented courses. As Gulbahar and Tinmaz (2006) stated, learners’ reflective thinking within the project based actions will be best assessed by product and process oriented e-portfolio evaluation. With more contemporary approaches to teaching and learning activities, e-portfolio assessments will yield more effective and beneficial results for learners.

Similar to Tezci and Dikici (2006) statements, preservice teachers were the active content and context developers within their e-portfolio development activities. Preservice teachers experienced how a context of e-portfolio could be developed with web design programs, as well as the content of their products for years. Although preservice teachers had been thinking solely on designing web context, the real implementation guided them thinking more about content which will be uploaded to the system. Therefore, whether or not students are provided with e-portfolio context, teachers should emphasize the importance of the content presented.

It was revealed that e-portfolio process assisted preservice teachers to develop different skills and abilities including pedagogical and technological aspects. Hence, as Kocoglu (2008) proclaimed, teachers of e-portfolio developers should inform learners on how much they will furnish themselves with new knowledge, skills and abilities. Besides, learners will be more motivated toward e-portfolio related procedures. Researchers offer that preservice teachers must inform that e-portfolios focus both on processes and products as an outcome of their activities. Traditional only-product oriented assessment should be replaced with more current assessment approaches which value not only products but also how learners spend their learning time, process in short.

This study is delimited to one single preservice teacher department, because they are aware of utilization of technologies into education. In order to get more detailed results to eliminate the limitations, the same study should be replicated with all other departments in universities. By conducting several further studies, we might have deeper understanding of e-portfolio uses for instructional assessments actions. This study could be supported and enhanced with the quantitative data and its analyses so that we can have more exploratory information about e-portfolios.

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