

E-Portfolio: From the Perspective of Pre-service Teachers

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ABSTRACT

There has been a huge transformation in the educational assessment where educators move from traditional pen and paper tests to other alternative forms of assessment. This resulted in the use of e-portfolio as a tool for assessment for students to document their learning process. This paper studied 15 pre-service teachers' views through semi-structured interview sessions. The focus of the interviews was to investigate the pre-service teachers' perspectives on the benefits and challenges of using e-portfolio as part of their module assessment. It resulted in three categories for the benefit (Articulation of ideas; allows creativity and allows deeper reflection) and challenges (Fair use; time limitation and neglecting content) of using e-portfolio respectively. This paper also further probed on the criteria of e-portfolio hosts that attracted the pre-service teachers to use as platforms to park their e-portfolio. The three categories for the criteria for e-portfolio hosts are user-friendly, compatibility with mobile gadgets and level of familiarity. The findings also showed that the pre-service teachers are able to think and reflect on their practices when they document the learning online. The findings also further suggested various recommendations on the use of e-portfolio as part of assessment, especially in preparing future teachers who are reflective in their practice.

Keywords: e-portfolio, assessment, pre-service teacher

INTRODUCTION

An electronic portfolio or e-portfolio in short, is a systematic collection of work, learning evidences and materials that capture user's achievements determined by a theme (Gray, 2008). As learning evidences are parked on Web and include various media, e-portfolio is also known as digital portfolio or online portfolio. Of late, there has been a huge transformation in the educational assessment where educators move from traditional pen and paper tests to other alternative forms of assessment (Gray, 2008; Chau & Cheng, 2010). Many emphasized on the use of portfolio, as it facilitates students to reflect on their own learning, leading to a more holistic individuals who meet the learning outcomes of any modules. This paper intended to study learners' perceptions on the benefit and challenges of using portfolio as part of their module assessment.

Portfolio as an Assessment Tool

Portfolios are used in the educational arena to achieve various aims from documenting experiences, providing key points for educators' and learners' discussion, communicate expectations, developing learners' self-expressions and so on. A portfolio is usually deemed a more authentic assessment tool compared to other traditional assessment methods (van Wesel & Prop, 2008). This is because rather than the learners showcasing what they have learned, a portfolio documents what a particular learner can do with what he or she has learnt. However, it does not mean that any other assessment tools are less authentic or valid, but different means of assessment are seen as more useful depending on the nature of the purpose of assessment. Portfolio is most aligned with the outcome when learning processes can be demonstrated with a product (Chang, 2008). This paper hence, focuses on the use of portfolios as means of assessment.

Portfolio and e-portfolio

E-portfolios, like traditional portfolios, can facilitate students' reflection on their own learning, leading to more awareness of learning and needs. However, users of an e-portfolio may include various evidences and media such as hyperlinks, audio, images, animations and other creative media in communicating ideas and thoughts, especially when it is online.

In the literature, there have been various studies looking at the many benefits of an e-portfolio as compared to its paper-based counterparts (van Wesel & Prop, 2008; Woodward & Bablohy, 2004). However, it must be noted that educators should not neglect the aim of portfolios or e-portfolios. These two types of portfolios should be viewed based on their shared merits, such as, their potential in supporting students' self-reflection and promoting the achievement of learning outcomes.

Good learners, typically, have a higher level of metacognitive knowledge and regulatory skills than poor learners. Metacognitive knowledge offers the insights needed to change the learning process to fit the changing task demands (Ertmer & Newby, 1996). Promoting these metacognitive skills via experience-based reflective learning enhances students' growth competence - ability for continuing development (Korthagen, 2001). Working on a portfolio stimulates these self-reflecting skills by collecting material and writing reflections (Driessen, 2008). By utilizing reflective thinking skills, students are also able to evaluate results of their learning efforts and effectiveness of learning strategies in certain situations (Ertmer & Newby, 1996).

Driessen et al. (2007) found through their study that creating an e-portfolio improves student motivation, more user-friendly for portfolio evaluators, and delivers the same content quality compared to its paper-based counterparts. They also found that students spent significantly more time preparing an e-portfolio than a paper-based one. However, many factors can be attributed to the case of students spending more time on completing an e-portfolio - most probably due to the difficulties faced in technicality of technological resources and the like (Gijbels, van de Watering, Dochy & van den Bossche, 2006). Although this was not mentioned in the study by Driessen et al. (2007), researchers have achieved the consensus that developing a portfolio supports the metacognitive skill of reflection, and certain aspects of both that might lead to a different level of support.

Artifacts, both physical and virtual (e.g. computer software), contain affordances, properties of an artifact "that make it easier to do some activities, harder to others. Each has constraints, preconditions, and side effects that impose requirements and changes on the things with which it interacts, be there other technology [artifacts], people, or human society at

large.” (Norman, 1993, p.243) Understandably, paper-based and e-portfolios contain some overlapping, but, more importantly for this research, some different affordances. A paper-based portfolio, for instance, only affords a linear structure, whilst an e-portfolio affords a more network like structure (via hyperlinks). An e-portfolio affords integration of multimedia while a paper-based portfolio does not.

In this paper, the potential of using e-portfolio as an assessment tool is further probed to find out learners’ perceived-benefits and challenges in developing and maintaining an e-portfolio.

THE STUDY

This study investigates the preferences, benefits and challenges on the use of e-portfolio as an assessment tool among pre-service teachers who are the students of Diploma in Education (Primary Education) in a Malaysian private university. 15 pre-service teachers were included as the respondents of this study as they are the group that made up the first and the second batches of the program. These pre-service teachers have all experienced developing and maintaining e-portfolio as an assessment method for modules that they undertake. Using a case study as research design, this research is governed by three research questions:

1. What are the criteria of an e-portfolio host that encourage pre-service teachers to use it as their platform?
2. How do the pre-service teachers perceive the benefits of e-portfolio as an assessment tool?
3. How do the pre-service teachers perceive the challenges of e-portfolio as an assessment tool?

The semi structured interview protocol used in this study comprised 5 items adapted from a study by van Wesel and Prop (2008). All the 15 pre-service teachers were interviewed for their views where each individual interview lasted for about 20 to 30 minutes. All the interview sessions were recorded in audio and were transcribed. The transcripts were given back to

the participants for member check and for further analysis. The categories emerged were also cross-checked with an expert in instructional technology as a triangulation effort to enhance the reliability of the findings. The findings are reported in the following sub-heading, with excerpts from the interviews to illustrate views inferred by the respondents. The respondents are labelled with numbers. For example, R1 refers to Respondent 1 and R2 refers to Respondent 2.

FINDINGS AND ANALYSIS

The findings in this section are reported corresponding to the research questions which governed this study.

The criteria that Influence the Respondents' Choice for e-portfolio Platforms

The respondents were asked about the aspects of online platforms that they look for when they choose one for their e-portfolios. They were many responses that indicated by the respondents which can be categorized into three, namely i) user friendly platforms, ii) level of familiarity and iii) compatibility with mobile gadgets.

Category A1: User friendly platforms

Under this category, it can be seen that the respondents are more particular with the design of the e-portfolio, and the diversity of media allowed by the platform which can provide satisfactory final look at their e-portfolio. All of the respondents interviewed indicated responses which can be grouped under this category. For example, R1 looked for professional finishing of his portfolio without needing to know the HTML codes. He mentioned:

“I can design the website to fit the content of my blog, without ever having to worry about codes. It’s very easy to design a professional looking site.” (R1)

For others, the ample choices of templates and user-friendly features of any platform attracted them more, especially when they can insert tabs and

media into their e-portfolio with ease. R14 and R9 inferred to this category through their responses.

“Weebly have quite many of ready-made templates. It is easy to use, just drag and drop.” (R7)

“I will choose the one with various layouts and easy to use.” (R14)

“I will definitely go for things which are user-friendly, easy to upload pictures and videos, good power navigation.” (R9)

As all of the respondents inferred responses indicating this category, the responses showed that the respondents are more likely to choose something which is time-saving and able to meet the outcomes they have set forth for themselves. The feature of drag and drop, for example, enable them to complete their work with ease and offers professional-looking site. This is especially important if their e-portfolio is a part of their module assessment.

Category A2: Compatibility with mobile gadgets

Under this category, respondents inferred ideas that they tend to choose platforms which are compatible with both their desktop computers and tablet computers. As such, they can seamlessly edit their work-in-progress on-the-go, at any time and place. P13 mentioned that it is important for a platform to be available and compatible with both her laptop and tablet computer. She said,

“To me, it is also important for it to be compatible on both iPad and computer. Then, I can work from anywhere regardless of the time.” (P13)

Working on the e-portfolio from any place and time is also true especially when ideas can be jotted down straight into the e-portfolio content, and media can be inserted from the storage of the tablet computer itself.

Category A3: Level of familiarity

This category was differentiated from the category “User friendly” delineated above because the respondents were taught explicitly the features of certain platform. For example, R3 mentioned that she was taught on how to use Wix through a hands-on workshop, and she basically knows how to develop a site hosted by Wix. The following is the excerpt from an interview with R3.

“I was taught to use it in a seminar, formally. Whereas, I am not so comfortable with Google Site as I have only learned it through a rushed tutorial.”

For R6, she preferred to use Google site as she is familiar with the Google Apps. This is evident from her excerpt as follows:

“I choose Google site for my portfolios because I’m used to it. I find it simple to use and I can link other Google platforms, like... add in Google docs.” (R6)

R3 and R5 showed that both of them tend to choose platforms which they have readily known, most probably because they do not have to learn and re-learn how to use certain e-portfolio hosts.

Pre-service Teachers’ Perceptions on the Benefits of e-portfolio as an Assessment Tool

The pre-service teachers agreed that e-portfolios benefitted them in many ways. Based on the responses analyzed, the responses can be categorized into three, namely i) easy articulation of ideas, ii) allows creativity and iii) allows deeper reflection.

Category B1: Articulation of ideas

The respondents indicated that having digital platforms of their work allows them to express their ideas through various media, and still makes it interesting. For example, R5 mentioned that:

“I have learnt how to use to some of the online platform such as Wordpress or Wix to do my e-portfolio; I can also insert some

of the pictures (visual aids) on the page to make my e-portfolio more interesting and to make the reader more understand about the content that I wrote. I can also upload some pictures and also write a long message about the picture that I have taken which help me to explain better about my content.” (R15)

R7’s response was also in congruent with what R15 has mentioned, which is the use of video is able to help them illustrate what they intend to articulate to their reader. R7 reiterated the following:

“...especially when we want to present the content with a support video. It can’t be denied that sometimes, thousands of words are less effective than seeing a real example. Video often can help to explain the situations that are hard to convey through words.” (R7)

Another feature of e-portfolio that the students find helpful was the unlimited words that allow them to explain thoroughly what they meant. To them, they are bonded to write in succinct ways if word limit is an issue, especially if reporting in a paper-based portfolio where they need to consider printing cost. This point was illustrated by R3.

“The good thing is because online texts are not bounded by word limits or space limits, due to printing costs or whatever. And so, one can include as many graphics to illustrate a point. Instead of explaining a lesson plan, one can attach an e-version of it, which makes for easier compilation. I can also edit as I please, even nearing the deadline, until my point becomes clear.” (R3)

Category B2: Allows creativity

Besides the feature of allowing them to articulate ideas better, they also find e-portfolio benefitting as they allow them to unleash their creativity. R2 provided her response expressing that e-portfolios are helpful in letting her include many creative elements in her work. She inferred this through the following response:

“This is because I can add in pictures, organize my points by creating a column on the top and I can add navigation. Instead of

writing my reflection on a piece of A4 paper, I prefer creating an e-portfolio to write my reflection because I can be more creative in presenting my content.” (R2)

R2’s response was consistent with what R11 has shared in the interview session. R2 found that e-portfolio “allow [her] to insert media, links and the wide range of resources from online. They allow [her] to show [her] creative side and experiment with an online tool.

Category B3: Allows deeper reflection

Another interesting category found was the ability to reflect deeper when the work is submitted through e-portfolios. As deep reflection comes from active observation and rigorous thinking, R3 believed that the convenience of jotting down and thinking about something during and after observation make it convenient for her and encourage reflection. R3 mentioned:

“...since we are always with our devices, it’s convenient for us to do reflection. Sometimes I may hesitate to reflect on the content learnt because I don’t know where to start, or where to write it on.”

R12 on a similar note found that the use of portfolio was encouraging for her and so she: *“Used [her] e-portfolio to show [her] day-to-day challenges as a new teacher, as well as how [she] have grown week by week.”* Congruently, R8 thought that: *“Placing e-portfolio as part of the assessment allows deeper reflection as it gives us a platform to express inner thoughts and processes.”*

Besides that, R8 also supported her views with the following response:

“I feel that by making an e-portfolio, I could actively record my data and also my process of doing the assessment. Hence, my work is always up to date with whatever I have done... when doing work online, there are less room for error, and more room for adjustments and customization to be made.”

R15 contributed to this category, mentioning that her thoughts seemed more organised on an e-portfolio compared to a paper-based portfolio. She mentioned the following:

“The ease of online portfolio makes it so much easier to categorize thoughts than on paper. I find myself able to think and reflect deeper.”(R15)

Overall, it can be inferred that the respondents found that using an e-portfolio was more accommodating for them to have deeper reflection on the content of certain modules.

Pre-service Teachers’ Perceptions on the Challenges of e-portfolio as an Assessment Tool

This subheading highlights the responses given by students on the challenges they faced for having an e-portfolio as part of their assessment tool. The feedback given by the respondents can be generally grouped under three categories, namely i) fair use, ii) time limitation and iii) neglecting content.

Category C1: Fair use

This category inferred the inability to freely share the photos which the respondents have taken to support or illustrate their point. Although the respondents mentioned that one of the benefits of using e-portfolios is the ability to share photos and videos, the respondents need to ensure that they are careful with the photos or videos they shared in their e-portfolios.

R3 provided responses that supported this point, extending her use to not only photos and videos, but also lesson plans. She mentioned: *“... there are so many other restrictions for e-portfolios. For example, use of student photos, classified lesson plans, easily traced by search engines. This allows people who aren’t supposed to see it may accidentally stumble upon it.”* Her point is especially true as the respondents’ need to maintain an e-portfolio which documents what they have learned in their placement schools. Hence, they need to take photos or videos of students’ learning most often than not to illustrate what they observe.

Category C2: Time limitation

The second category encapsulates responses that developing and maintaining e-portfolio can be time-consuming, especially in the initial stage. For example, R3 mentioned: “...to waste time to design and set up the website”. R6’s responses also were consistent with what R3 has suggested, as he felt that he has to re-create a new email address to host different websites for different modules. R6 mentioned “I face difficulties in setting up the website. For example, Wix only allows for one blog platform for the site.”

Category C3: Neglecting content

This category provided another insight to how the respondents find e-portfolio as challenging for them. Responses that were grouped under this category contributed to the understanding that they tend to focus on the technicalities of setting up an e-portfolio, and that resulted in them not putting much effort on the content. This can be clearly inferred from R3’s response as follows:

“Demands for too much to be covered in an e-portfolio. Because a website has to look multi-faceted/interesting, I find myself spending more time making my website look good or setting up the website than actually reflecting on my practice.” (R3)

Similarly, R11 attributed her challenges in using e-portfolios to knowing how to use it, instead of focusing on what to write. R11 mentioned the following:

“The challenge of the e-portfolio was being new to it. I had to figure out how to properly use it to make the e-portfolio the way I wanted. Most time, it was hard to even know what I wanted. Sometimes, I spend too much time trying to figure out how to use it and also by playing around to make my website look nice.” (R11)

This category shows that there is a divergent from what the e-portfolio is set to achieve, which is for students to develop deep reflection and quality content. Instead of focusing on the content, the respondents felt that to develop a nice layout and professional-looking site, they must spend more time focusing on those facets, instead of contemplating much about the quality of the content they inserted on the site.

DISCUSSION AND CONCLUSION

The findings of this study were congruent with what other researchers have found in their study (Driessen et al., 2007; Gijbels et al., 2006), that most students find it motivating to develop an e-portfolio as they are able to unleash their creativity and be more reflective in thought. The participants in this study also further suggest that the convenience of capturing photos and other relevant learning evidences in their tablet computers makes them maintain an e-portfolio more efficiently. That allows more time to deeply reflect on other contents.

However, the findings of this study also suggest that there are many issues that educators have to pay more attention to before including e-portfolios as part of the assessment. From the data gained, it showed that students need more time in preparing for their e-portfolios as they need to take care of both technicality and the depth of the content presented on the e-portfolios platforms chosen by them (Category C3). It also seems apt to provide a hands-on course to expose students to the platforms readily available and advise them to use a standard portfolio host across different modules. Such initiative will enable the novice to learn how to start developing an e-portfolio, instead of wasting time navigating through things they are not familiar (Category C2). Through such workshop also, the pre-service teachers could be exposed to the function of privatizing their e-portfolios, to curb the rising issues of fair use, especially in this advance digital age (Category C1). This issue of fair use is particularly unique to the teacher training programme as school placements involve many documentation of their practice and observation in school where videos and photos of children learning are common.

In conclusion, it can be said that the use of e-portfolio in the modules as part of the assessment is encouraging thinking among the pre-service teachers. It meets the aim of reflective practice that the teacher training programme has set forth to achieve among its prospective graduates as future teachers. However, the issues and challenges raised by the respondents in the study must be addressed to ensure the effective implementation of such assessment, and to produce graduates who are not only reflective in their thoughts, but in their practice too.

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