Key Stakeholders' Perceptions of Using E-Portfolio in Preschool Teacher Education

Shiqi Li[1, a]

[1] School of Preschool Education, Chongqing University of Education, Chongqing 400065, China;

[a] sukie1111@126.com,

Abstract. E-Portfolio is wide-used in higher education and teacher education. Preschool teachers in Chinese preschool are required to create children's individual learning portfolio. However, preschool teacher students seldom evaluated by a portfolio assessment and create their own E-Portfolio. Therefore, making attempts to use E-Portfolio is urgent. But before extending, key stakeholders' perceptions have to be taken into account. This study interviewed and surveyed teacher students, college teachers, college administrators and principals about their perceptions of using E-Portfolio within focus group and questionnaire. Three oriented purposes of E-Portfolio were concluded by key stakeholders. Each group shared their opinion on advantages and disadvantages of E-Portfolio and three implement scenarios were conceive.

Keywords: E-Portfolio; stakeholder; teacher education; preschool teacher

1. Introduction

Portfolio is an evaluation tool developed from art and design field. It is wide used by different teaching institutions because of its inclusion of process recording, reflection and interpretation of learning, and the richness of its content [1]. For example, a learning portfolio can include learner's representative texts, photos or videos documenting their achievements, as well as comments from teachers or mentors on their performance in a particular area. Among them, the portfolio evaluation method is used by kindergartens as evidence and result of process evaluation, and is highly respected by early childhood educators because it sometimes enables them know better about the authentic children. Preschool teachers can use portfolios as a tool to reflect children's learning journey together and promote children's agency of learning [2].

At present, the electronic portfolio (E-Portfolio) is wide-used in different level of learning institutions. E-Portfolio is usually divided into two types, one is "showcase". It refers to portfolios' original function that show students' learning achievements for four years in college. Outstanding works and most exquisite proof comprise a showcase e-portfolio. This kind of E-Portfolios are mostly used in the process for undergraduates' employment. The other is a learning e-portfolio that focuses on process assessment, which is often used in higher education and may include items for process assessment and summative assessment for courses. It is designed to support, assess and document the whole process of students' learning journey. And it is used for other vital reasons that it may help students reflect themselves in regular frequency and increase students' intention to become a lifelong learner [3]. Hence, learning e-portfolio is recognized as a valuable teaching tool for higher education institutions that can broaden the learning experience and ultimately equip graduates with '21st century skills' and competencies [4].

In some developed countries, such as the United States, The United Kingdom, Australia and New Zealand, supported by government policies, communities of practice and research funds, E-Portfolio has been rapidly developed and applied in the field of higher education [5]. Since 2010, due to the popularity of emerging digital technologies (such as MOOCs, digital badges and blockchain, etc.), more than half of universities in the United States, The United Kingdom have used E-Portfolio for years [1]. In the field of teacher education in China, E-Portfolio has not been widely promoted as a major or important teaching evaluation tool. Preschool teacher students, however, are required to be familiar with it because of its practical scenarios are using portfolio to evaluate and record children. In order to understand and evaluate children better preschool teacher

students should count on their own experience of using learning portfolio. To further facilitate and encourage this powerful and meaningful reflective evaluation tool, this study tends to know key stakeholders' perceptions of using E-Portfolio in preschool teacher education context.

2. Purpose of Study

Currently, the trend of using E-Portfolio in Chinese higher education field is not common. To be an excellent preschool teacher must have strong reflective ability and practical ability. It is urgent for normal universities to implement E-Portfolio to improve the preservice teachers' reflective ability and professional development. However, it is not clear that key stakeholders (like principles who would make the hiring decision; college teachers who will actually conduct the usage of E-Portfolio and preservice teacher students) would value the advantages of E-Portfolio. It is vital to inquiry key stakeholders' perceptions. Taking into account their attitudes and ideas is fundamental to the effective implementation of new evaluation tools. This study focused to answer three questions regarding the key stakeholders' perceptions about the main purpose, barrier and implement of E-Portfolio. The questions explored were:

1) what are the perceptions of key stakeholders regarding the main purpose of E-Portfolio?

2) what are the perceptions of key stakeholders regarding the advantages and disadvantages E-Portfolio?

3) what are the perceptions of key stakeholders regarding the implement scenarios of E-Portfolio?

3. Methods

3.1 Participants

Twenty participants were selected by Purposive Sampling. Four for each group (preservice teachers, college teachers, college administrators and preschool principals). The preservice teacher participants average age was 21 and they are from different grade. The college teacher participants average age was 35 and with average working experience for seven years. The college administrator participants average age was 45 and works for different departments. The preschool principal participants average age was 48 and all work for the college partner preschool for decades. In order to avoid the gender bias, the gender rate is equal in each group. A group of stakeholders participated in a questionnaire survey to offer more information of their group based on the discussion in focus groups. There were 125 preschool teacher students, 55 college teachers, 33 college administrators and 20 principals finished the questionnaire survey.

3.2 Research method

The main purpose of this study was inquiring key stakeholders' perceptions. Thus, one of the most appropriate research methods was focus group, which is commonly conducted in researches that focus on people's own views and understandings [6]. Focus group is also a socially oriented research method, which tries to capture real life data in the social environment. It is flexible and has high face validity. In the focus group research process, semi-structural interviews were conducted with each group members. The theme topic is the usage of E-Portfolio. How key stakeholders views the usage of E-Portfolio. Would it be benefit or drawbacks for them etc.

3.3 Data and analysis

Focus group interviews were transcribed. Collected data was coded in a qualitative way based on three main research questions: main purpose, problems and barriers, and implement scenarios. A questionnaire survey was caught out after the focus groups interview and data was analyzed.

4. Results and discussion

This section addressed three research questions. Firstly, three different purposes of the E-Portfolio are argued by four focus groups. Secondly, key stakeholders shared their opinions of three different oriented purposes of E-Portfolio. Finally, four groups discussed the implement scenarios of E-Portfolio in their daily working and learning context.

4.1 Three oriented purposes of the E-Portfolio

There are three different oriented purposes of E-Portfolio that key stakeholder mainly argued. They are evaluation oriented, process & reflection oriented, showcase oriented. Table 1 displays the results of participants' responses to the interview questions and questionnaire survey regarding the main purpose of E-Portfolio.

Table 1 key stakeholders' perceptions regarding the main purpose of E-Portfolio

E-Portfolio purpose	TS	CT	CA	PR
Evaluation oriented	15%	67%	36%	12%
Process & reflection oriented	7%	22%	30%	17%
Showcase oriented	78%	11%	34%	71%

Note: TS = Teacher Students; CT = College Teachers; CA = College Administrators; PR = Principals

Teacher students tend to believe that E-Portfolio can help them find a better job once they create their E-Portfolio as a showcase. They argued that preschool principals have a preference of interviewees' artistic skills when they are making employment decision. Since portfolio evolved to E-Portfolio that enables them to upload many videos and audio file that they recorded on course, skills competitions and performance, teacher students always pay more time on editing their showcase portfolio than preparing their resume. Similarly, preschool principals valued the E-Portfolio as a showcase-oriented evaluation tool that help them to know job candidates quickly and make a wise decision. One of the principals claimed that E-Portfolio contains many types of information that paper-based portfolio such as preservice teachers' dramatic play video that performed in classroom. "The most interesting information is the comment of student teachers peer and teacher" as he said, "the other important reason that I prefer E-Portfolio is because I can find out candidates' competence, in the past I can only know what vocational certificates they got, but you know, certificates not always mean the same competence.

However, college teachers viewed the purpose differently. College teachers preferred process & reflection-oriented E-Portfolio most. One of the college teachers mentioned a concept called "high road transfer" which refers to the transfer that requires learners "intentionally and diligently abstract" and actively seek the relationship between the two situations. She believed that the process & reflection-oriented E-Portfolio offers students an opportunity focus on their own learning journey: what I learned in this lesson? What kind of strategies works for me? To what extend I can improve my skills on reading and thinking etc. But disagreement appeared in the college teachers focus group. One teacher argued that we should stop being optimistic that learners, or even teachers, will understand these processes. Instead, the key processes and key elements should be defined from the outset and supported on an ongoing basis, otherwise learners will not be able to achieve the desired results. One teacher said she had read reflective writing by preschool teacher students, but the conclusion was disappointing: learners clearly did not understand the reflective process and thus did not benefit from the use of E-Portfolios. However, the reason lies in the problematic teaching strategies of college teachers, especially noting that they often only ask learners to write reflections, telling them that it will be good for them in the end, but fail to explain what a good reflection should contain.

College administrators thought all three types of purpose-oriented E-Portfolio are applicable in some certain circumstance. They want to make the best use of E-Portfolio in both summative evaluation and formative evaluation. Due to the Education reform based on OBE concept, multi-form of summative evaluation became a popular way to prove teachers' "new concept". Staff

from Recruitment and Employment Department did emphasize the positive effect of showcase E-Portfolio in the process of employment.

4.2 Advantages and disadvantages of E-Portfolio

From their own experience and perspective, key stakeholders discussed the advantages and disadvantages of learning portfolio cognition.

Teacher students concluded three advantages of E-Portfolio: firstly, they found themselves become more initiative when using E-Portfolio for the online course. Under the impact of COVID-19, teacher students have to attend online course, some students performed much worse. But E-Portfolio prompt them to work harder in order to get high score. "Because you cannot fake it, you have to work hard to prove that you really get it and what you write has come from your reasoning and deep thinking." said by a sophomore. Secondly, they admired the value of reflective function of E-Portfolio. Many of them shared their good experience of re-reading their learning journey make them more confident of themselves. One teacher student with "zero-skill of piano said: "The learning process hints me where I start my learning, and what a long way I've come. Take my first piano lesson as an example, I was really bad at piano, I cannot even find the middle C on keyboard. Now I can play a whole nursery rhyme. I know it means nothing for piano professionals, but E-Portfolio reminded me I've made a lot progression." Thirdly, the showcase-oriented E-Portfolio influenced their job application in a positive way. One senior student just got an offer: "I was told by my principal that she enjoys my dramatic play video. I considered it is a good way to use E-Portfolio to show my strength and get my job."

There were three disadvantages discussed by teacher students as well. One is E-Portfolio can be so time-consuming. More than 60% students complained that many teachers ask them create an exclusive E-Portfolio for each course. "I didn't see the points." One student from focus group suggested that teacher can discuss before semester start. One more disadvantage is the difficulty for students to reflect themselves. "I was told to reflect this course and my learning journey, but I have nothing to write. And teacher never teach me how to reflect," complained by a freshman, "I think I was doing right, but teacher wants me to say I was doing wrong somehow, this really bothers me." Another disadvantage is the peer pressure. Around 45% teacher students reported that they have to get involved of E-Portfolio creating process. "When two thirds of your classmates made 2GB files in their E-Portfolio, you may start to doubt yourself 'Am I the laziest students in my class? What I missed? Is there anything I should do but I didn't?'" According to these students, they are forced by their classmates to put some "useless staff" in E-Portfolio to avoid getting a "F" in portfolio-evaluation. "It was too much, and I call it too much is in vain."

College teachers regard the E-Portfolio as an excellent evaluation tool, but there are many specific problems when using it in practice. The first problem for college teachers is the way to teach students use E-Portfolio as a reflection tool. "Many students, I mean at least more than 60%~70% students know few about E-Portfolio. Students tend to view it more negatively and see it as "containers for work" and "reflective work that must be done." said by a four-year-experienced teacher. The other problem is that E-Portfolio is difficult to carry out multivariate evaluation in combination with curriculum. And multivariate evaluation raises the requirements for teachers [7]. Some teachers claimed that is a challenge for them. A well-experienced teacher argued that true reflection should include evidence of deep learning, in which learners analyze skills learned from one practice, relate them to other aspects of learning, and think about how these skills can be applied "throughout life, at their professional, personal, and civic levels." and being honest: "I don't think many teachers in our college can archive this level, so we still got a long way."

However, the advantages of E-Portfolio are apparent. In traditional teaching evaluation, teachers have absolute control over teaching content, teaching purpose, learning progress, learning materials and learning evaluation, while learners usually just follow the command of teachers and accept passively without initiative. The purpose of the E-Portfolio is completely learner-centered. Learners can learn according to their own interests and hobbies, according to the guidance of learning

objectives, to collect their own learning materials, complete the required works. In this way, learners have complete autonomy and control and can participate in the formulation of evaluation standards, which can also promote learners to carry out independent learning. Second advantage is that E-Portfolio enables teacher evaluate students in the context and get a round and authentic evaluation results. Teaching evaluation should be carried out in the learning activities that learners participate in, rather than in the test situation which is separated from the curriculum. It is one-sided to evaluate learners with the test results alone. Electronic portfolio is a process-oriented evaluation method, which runs through the whole learning process and records the whole growth process of learners. It realizes the integrated evaluation of learning, curriculum and results, and no longer evaluates learners without curriculum and learning. Last advantage of E-Portfolio from college teachers' perspective is flexibility. E-Portfolio supports knowledge sharing and opens a convenient door for learners to obtain professional knowledge. Learners can find relevant materials through the link of E-Portfolio and share their downloaded files and information. In this way, the transfer of knowledge is more targeted. Learners can also exchange and discuss their learning experience and opinions in the comment area of the electronic portfolio, so that knowledge can be better applied. Such targeted for learners to teacher to arrange tasks were discussed and comments, let them find the same interest to exchange learning, cooperative learning, together with attention for a long period of time, greatly improve their professional knowledge, can also develop the learner's participation motivation and learning enthusiasm, forming good, benign circulation system study.

From the perspective of college administrators, E-Portfolio has its advantages and drawbacks. One of the members from focus group mentioned that according to their teaching and learning quality monitoring data, students did get progression. It may not all because of the implement of E-Portfolio, but he considered it a good hint. However, more than half of the administrators recognized the unmanageable issue in the evaluation reform. One thing they mentioned frequently is that technic of E-Portfolio is not satisfying. "We purchase various APP products but none of them meet our requirement. I guess we can blame the programmer never get the point of teacher education."

Principals could be the most positive group in this context. Almost every principals agreed that the e-portfolio simplifies their process of getting to know job applicants. E-Portfolio presents a comprehensive picture of a pre-service teacher's knowledge, attitudes and abilities. Studies have found that the kindergarten in China mainly examines two big aspects when hiring a candidate. One is the teacher's ethics, professional knowledge and competency, including the efficient communication skills, the master of the characteristics of the different age stages of early childhood development, excellent class management organization ability, basic ability of digital technology, and companion to the class and campus colleagues and young children's ability to work, Ability of self-learning, reflection and creativity [8]. The current recruitment model is difficult to give the principal enough time and opportunity to fully examine the cognition and ability of an applicant. However, E-Portfolio can show the learning quality of preservice teachers through the process of learning projects, the ability of group evaluation, communication and collaboration, and the depth of reflection of different normal university students through the reflection journal.

However, around 10% of the principals expressed their concern of "authenticity" of E-Portfolio. One principal pointed out that showcase-oriented E-Portfolio could be the result of "Delicate Edit". For example, research shows that if everyone's portfolio is too "uniform", it may affect potential employers' perception of its value [9].

4.3 The implement scenarios of E-Portfolio

Universities in developed countries generally provide excellent sample and evaluation standards to teacher students. It is not only necessary to ensure clear explanation and implementation of teaching and learning portfolio evaluation, but more importantly, to ensure long-time span [10]. In addition, some researchers believe that becoming a teacher requires skill of reflective. E-Portfolio promote teacher students develop the habit of reflective practice and benefit from the subsequent

educational practice [11]. There were three kinds of E-Portfolio implement scenarios that concluded from focus group and other participants.

4.3.1 Implement Scenario Ⅰ: Summative Evaluation oriented E-Portfolio

Summative evaluation-oriented E-Portfolio aims at evaluation, including summative evaluation and formative evaluation. The contents of the portfolio should be periodic process records, as well as results-based documents, works and various types of media materials. Time span can be a semester. E-Portfolio can be created by students, and teachers. Meanwhile, on the non-standard evaluation course, students can join the link of mutual evaluation. This will provide them opportunities for mutual learning. In the application of summative evaluation-oriented E-Portfolio, we should fully combine the characteristics of preschool education teachers' professional features, make full use of the advantages of E-Portfolio, enrich the presentation of summative evaluation, and provide high-quality reference for curriculum construction and student training.

4.3.2 Implement Scenario Ⅱ: Process-Recording oriented E-Portfolio

The purpose of the process record oriented e-learning portfolio is to record the process of learning, and the most importantly, is to promote teacher students' reflective skills. The contents of this kind of E-Portfolio should be more authentic and original learning materials, or process records. There is no need make all the stuff fancy. Students need to reflect on the original learning process, including some cooperative reflection on team and group tasks. The process record orientation requires a long period to use the portfolio, because many learning processes and results take time to emerge changes.

The Process-Recording oriented E-Portfolio applicating context can be broader: such as domestic or overseas exchange programs, each students can set up an E-Portfolio to record learning journey out of this college; Or it can applicated for some scientific research projects, competition projects, practice projects, etc., there is no examination for this kind of program, a group/program-based E-Portfolio can help the whole small team reflect more often and carry out smooth communication. Instructors and students can have a "practice - feedback - reflection - discussion - adjustment - practice again" reflective practice cycle while using E-Portfolio.

Therefore, an online sharing and evaluation platform should be included in the process-recording oriented E-Portfolio. In the application of process-recording oriented E-Portfolio, managers, teachers and students should correctly recognize the value of process recording, and pay attention to review the process will improve the practice and reflection ability of normal university students. The most important thing is not the record, but the careful review and reflection of the record, and the action of making adjustments.

4.3.3 Implement Scenario Ⅲ: showcase and lifelong learner-oriented E-Portfolio

The showcase and life-long learner-oriented E-Portfolio was created not just for job-seeking purposes, but also for supporting teacher students become a lifelong learner. It was designed not only supports students' cognitive, technical and reflective abilities, but also serves the function of demonstrating individual talents to future employers. The content should be carefully selected and prepared even from the beginning of the university. This type of E-Portfolio should be used over a long period of time, with the student taking the lead in adjusting and determining the contents of the personal display growth during their whole preschool teacher career. Although the data storage capacity of E-Portfolio is potential, the content still can't be too complicated, disorderly and without quality. Therefore, teachers and administrators of normal colleges should investigate the needs of preschool and other institutions that may hire their undergraduates and provide students with key information from principals and experts in fields. At the same time, learners should be fully stimulated to their ownership of portfolio to show their strength and yearning for becoming a lifelong learner.

5. Conclusion

The implement of E-Portfolio in preschool teacher education is assessed as helpful, efficient and challenging. To archive better use of E-Portfolio, preservice teachers should focus on their reflective skills and using it to improve their learning and practicing; college teachers should inquiry the best way to support students and changing their evaluation. Other stakeholders can engage in this educational reform and support preservice teachers.

References

[1] Farrell, Orna. "From portafoglio to eportfolio: The evolution of portfolio in higher education. Journal of Interactive Media in Education. Vol. 1 (2020) No. 19.

[2] Seitz, Hilary, Bartholomew. Powerful portfolios for young children. Early childhood education journal Vol.36 (2008) No. 1, p. 63-68.

[3] Clarke, Jillian, Boud. Refocusing portfolio assessment: Curating for feedback and portrayal. Innovations in education and teaching international Vol.55 (2018) No.4, p. 479-486.

[4] Kunnari, Laurikainen. Collection of engaging practices in ePortfolio process–Publication of the Empowering Eportfolio Process project. Häme University of the Applied Sciences, Hämeenlinna, Finland, 2017.

[5] Eynon, Bret, Gambino. High-impact ePortfolio practice: A catalyst for student, faculty, and institutional learning. Stylus Publishing LLC, 2017.

[6] Wilkinson, Sue. Focus group methodology: a review. International journal of social research methodology.Vol. 1 (1998) No. 3, p. 181-203.

[7] Jenson, Jill. Promoting Self-Regulation and Critical Reflection through Writing Students' Use of Electronic Portfolio. International Journal of Eportfolio. Vol. 1 (2011) No. 1, p. 49-60.

[8] Liu Shujie, Liu Caixiang, James Stronge, et al. Teacher characteristics for success in the classroom: Chinese principals' perceptions for hiring decisions. Asia Pacific Education Review. Vol. 17 (2016) No.1, p. 107-120.

[9] Whitworth, Deering, Hard, et al. Perceptions Regarding the Efficacy and Use of Professional Portfolios in the Employment of Teachers. International Journal of Eportfolio. Vol. 1(2011) No. 1, p. 95-106.

[10] Delaney, Lorraine, Brown. To walk invisible: distance students in a dual-mode university. Distance Education Vol. 39 (2018) No. 2, p. 209-223.

[11] Lewis, Lyn, Gerbic. The student voice in using eportfolios to address professional standards in a teacher education programme. Journal of Teaching and Learning for Graduate Employability Vol.3 (2012) No.1, p. 17-25.