Implementation of E-portfolio Assessment in Hong Kong: Preliminary Findings

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Abstract: In this paper, we describe the preliminary findings of a qualitative research of the implementation of e-portfolio assessment in Hong Kong schools. The ten teachers interviewed revealed that e-portfolio assessment is an instrument that allows students to understand their learning progress and growth. It requires time to accomplish, and considering that the learning activity is carried out in a short period, the method turns out to be a way of piling up files. It also serves as a reference to show students' performance when they apply for quota in secondary school. The culture of compiling actively using e-portfolio has not been formed, and the use of e-portfolio as an assessment tool has not been realized.

Keywords: e-learning, e-portfolio, assessment, computer education

Introduction

Hong Kong has witnessed a number of educational reforms in the past two decades, including changes in quality [1], curriculum [2, 3], teaching, and school system [4] as well as the integration of information technologies [5]. Today, it is common to see desktop computers, notebooks, and tablet computers (like iPad) being used in the classrooms. Computer rooms are configured to allot one computer for every student and now, it is almost a standard for each classroom to have Internet connection and a computer and video projector connected to the screen. Computer servers become the standard equipment of a school for administration, teaching and learning. We have come to an era when digital technology is changing the world; thus, the digital development in the field of teaching, especially for assessment, has become a noteworthy topic. Hong Kong is promoting the adoption of alternative assessment in response to educational reform for evaluating diversified abilities of students and verifying high-level learning performance which is hardly achieved by traditional paper-based assessment method. The technology environment also is ready for the adoption of e-portfolio, a digital alternative assessment method, in the schools but the fact of such implementation is still unknown. The purpose of this study is then to explore the current practice of e-portfolio in the schools and the perception of using such method with digital devices in daily learning activities among school teachers in local primary schools.

1. Background

1.1. What is e-portfolio?

E-portfolio is known as using computer in building a portfolio. It is also named the learning process assessment, a collection of personal works and documents, the learning

documents, the works collection, or the complete dossier on student's learning. According to Chapman and King [6], "portfolio" was originated from the Latin words *portare* ("to carry") and *foglio* ("one piece of paper"). The portfolio is regarded as an evaluation tool because it requires students to collect sample works or completed works systematically and deliberately. Portfolio exhibits and describes the efforts of students in certain aspects using the record to display students' learning performance or the mastery level of a subject matter. A portfolio can also be described as a self-portrait of students' personal achievements, and is used to exhibit their self-growth and thinking. Teachers can know the efforts made by students during learning and the achievement of the learning target through the performance in a portfolio [7, 8, 9].

Portfolio contains various items like paper exam results, conceptual diagrams, interview records, learning reports, copies of oral reports, worksheets, homework, logs, photos, models, and work that can reflect the initial concept and finished works of students. It also includes logs of systematic observation and peer review, records of appraisal, feedback or opinion from teachers and classmates, and self-reflection during a learning period [10, 11]. The samples of work collected can be of any format like text, audio, video, program code, picture, and so on. The portfolio is also regarded as a progressive assessment tool because it is through students themselves to demonstrate, record, collect, and illustrate reproduction and ideas of objects [12, 13, 14].

Portfolio contains some common characteristics [15] no matter it is presented in traditional way or digital form. Portfolio can: (1) express a specific aim; (2) stimulate students' reflective thinking; (3) reflect definite criteria of choices; (4) provide students with the opportunity to get involved in teaching and choosing the learning results; (5) exhibit the learning process and outcomes for students; (6) show clear criteria for assessment; and (7) reduce complexity.

The organization and growth of information in portfolio allow students to do self-reflection and assessment of their own work. It is a collaborative method between the teachers and the students, which allows varied, current, and realistic assessment of students' learning. As a means to store learning data, portfolios presented by words, images, or other means can now be saved in digital form. Students can use scanners or digital camera and the computer to combine images and texts in multimedia format and hence, the term "e-portfolio" is used.

The infrastructure of information technologies in the schools of Hong Kong is good as the government has invested a lot of money in to support the application of computers in daily teaching and school administration [5]. Such a technology environment makes the adoption of web-based or online portfolio assessment feasible as schools can develop a web-based resource management and learning assessment system for their own use. In such system, students can build their e-portfolio easily by uploading their digital artifacts, receiving teacher's and peers' comments and communicating with others via its user-friendly interface.

1.2. How to build an e-portfolio for assessment?

Students may follow the recommendations of Lo [15] as follows when building a portfolio:
1. Ensure that students have their own growth records.
2. Decide the type of works samples to be collected.
3. Collect and store work samples.
4. Choose the criteria for assessment of work samples in the portfolios.
5. Students are required to assess works in the portfolios on an ongoing basis to ensure

that they assess their works based on the predefined criteria. Self-assessment and Peer-assessment should be the important parts in preparing portfolios.

6. Arrange meetings to discuss portfolios. Students and teachers are key players.
7. Mobilize parents to get involved in the assessment of portfolios.

In e-portfolio, the digital form puts more emphasis on knowledge management and software application. It reveals a need for students to master relevant capabilities in dealing computer and software. Students must pay extra attention: 1) to decide e-portfolios architecture, indexing, or ways of assembling different contents; 2) to organize all data and place them in right locations; 3) to input all entries to computer by texts or images; 4) to make sure that all printed materials, images, or audio files must be clear, readable, and identifiable; and 5) to type or write in correct, concise and readable manner.

No matter constructing or assessing e-portfolio, teachers need time to instruct students on how to choose suitable data and to record, analyze, and wrap up such data systematically. The assessment of e-portfolio is more difficult than paper-based format. First, it is a challenge to develop a set of generally accepted assessment criteria. Second, teachers need to understand the assessment method of portfolio through continual training before they can attempt to give students effective instructions for making portfolios.

1.3. What are the limitations regarding to implementing e-portfolio assessment?

The major limitation to portfolio, no matter in digital or traditional form, is related to time. Lo [14] expressed the following views: "*Portfolio includes a lot of information about students. Teachers need to spend a lot of time to read the portfolio. When assessing the portfolio with scores or grades, teachers need to assess the portfolio objectively, which is a great challenge to assessment*" [page 26]. Besides, there is no single method in design and structure an e-portfolio. There are diversified formats and ways of presentation. Thus, the prior collaboration among teachers is indispensable. Clear assessment criteria should be given in advance as it assures mutual understanding of all criteria for success and failure between teachers and students. Furthermore, students with poor writing skill may be at a disadvantage for writing self-reflection. We should then provide alternative ways for this task. As students' output is also influenced by the use of digital resources, sufficient word and image processing software applications and hardware should be installed in schools. However, the availability of such resources is always the critical factor in determining the success or failure in e-portfolio.

Given the above background regarding e-portfolio, the discussion on its practice in Hong Kong is still rare. This study, therefore, aims to examine the current practices of implementing e-portfolio assessment and the perception of using such method among school teachers in local primary schools. The findings will provide useful information for the education community on how student learning can be facilitated via using alternative assessment method in digital form. The following sections report the preliminary findings which focus on the perception of teachers on the role of e-portfolio assessment in local primary schools.

2. Method

The present study adopted a qualitative research method. Ten teachers were invited for semi-structural interviews on voluntary base from five primary schools (two from each school, with teaching experience ranging from seven to 27 years, working as discipline master, curriculum leader, or vice principal in their respective schools) with experiences in

implementing e-portfolio assessment. Semi-structured interview were carried out at the meeting rooms in the schools for 35 to 55 min to gather responses to following four leading questions: 1) What is your idea of e-portfolio? 2) How should schools apply e-portfolio? 3) What problems do schools encounter during the practice? 4) What is the role of e-portfolios in schools?

The researcher transcribed the audio interview record into text files, and used NVivo 7 for encoding and analysis, with particular emphasis on (1) the processing of e-portfolios in school practice; (2) the challenges met by teachers during the implementation of e-portfolios; and (3) the true role of e-portfolio in school practice. The interview transcripts were encoded as S1_T2_1.1 (School 1_Teacher 2_Section 1.1)

3. Results

The present paper focuses on the results and discussion on the perception of the role of e-portfolio assessment in schools among the participants. The following major themes were clustered after a qualitative analysis process:

1. Teachers think that the e-portfolio is an instrument for students to understand their learning progress and growth.
2. In school practice, the e-portfolio is merely a learning activity carried out within a short period.
3. In school practice, e-portfolio is viewed as a means of piling or filling up of record files.
4. Both teachers and students lack the time to develop high-quality e-portfolios.
5. E-portfolio serves as learning performance record for use in applying a study place in secondary schools.

The preliminary findings reveal that the schools in this study have a tendency to piling up record files as a means for implementing e-portfolio. The teachers and students had mistaken e-portfolios as merely an instrument for the collection of learning materials rather than a method for assessment. The participating schools created digital folders in the computer system at the start of each school term, in which students were required to upload relevant materials into the folders assigned to them. The uploading periods were usually short and the students seldom had the chance to write reflection on the work they have done. Teachers expressed in the interviews that they collected and assessed students' portfolios only at the end of each term. They did not monitor and evaluate students learning during the school term but allowed students to fill up record files in the folders without any screening or doing self-reflections.

4. Discussion and Conclusion

The above results show that the perception of the role of e-portfolio among the teachers in this study is far from that being reviewed in the literature. Teachers only considered e-portfolio as a central cabinet for "piling or filling up of record files" of students' work [15, 16]. The idea of assessment for learning by e-portfolio has not been realized in the current school practice [17]. The above findings also indicate a need for promoting the use alternative assessment method using learning portfolio. Teachers should understand that the aim of learning portfolio is not just to provide a convenient tool for teachers and students for processing multimedia files and word documents but is to demonstrate the growth of students and to develop their ability for self-reflection. E-portfolios cannot be completed at once or in a short period of days or weeks. Creating e-portfolio requires the

active design, guidance, and encouragement by teachers. Teachers and students should discuss the criteria of success and failure altogether. The right to actively choose materials for inclusion into the portfolio must be given back to students. Students should have the opportunity to decide what to exhibit, to illustrate the reason for their selection, to write down their self-reflection, and to exhibit their own learning growth. Based on such preliminary results, it is doubtful to conclude that the educational purpose of e-portfolio has been realized [17] in Hong Kong local primary schools for the research sample was small and there was a lack of an empirical design for in-depth study. However, the current findings may illustrate a tangible discrepancy between theory and practice on "alternative assessment" in the education community and it is a crucial issue that deserves further exploration.

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