Application of E-Portfolio in Higher Education

-A flexible assessment tool to estimate teacher competences and student learning

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Abstract—**E-portfolios are a relatively new instrument being used to assess teacher competences and student's study attitude. However, it is not yet widely being accepted in Chinese higher education system. This paper is aimed to represent the situation of the use of e-portfolio in western countries, Asian regions, Hong Kong and Taiwan and Chinese higher education system.**

Keywords—e-portfolio; higher education; teacher competences; study attitude

I. INTRODUCTION

Education is a kind of interactive process between students and teachers. In another word, student need to know their achievement and mistake in the process of study; and teacher need to know the quality and efficiency of their teaching. Thus, we need an appropriate way to assess the education process.

An appropriate assessment tool can give the students, teachers and other relevant personnel feedback about the estimation of the education process. Currently, complex mixture of assessment methodologies has been taken into consideration in higher education. A comprehensively assessment of student study process can be carry out by exam tests, presentations, tasks, assignment and so on. A just evaluation of teaching process can be assessed by vocational qualification examination, peer evaluation, student evaluation etc. Thereby, lectures can learn their vocational ability and develop their teaching level; and college students can track their growth and determine their deficient [1].

Internet and computer are the latest education technologies used in higher education system. Electronic or e-portfolios are a new tool based on the internet and computer technology being increasingly used in higher education institutions to evaluate and enhance teaching and learning practices in developed countries in the recent years [2].

Systematic and purposefully collection of electronic document of evidence related to a student's work is defined as a student e-portfolio [3, 4]. It cannot only be used by a teacher to assess and understand the student's learning situation, but also be used by the student to track their own achievements and determine their own weakness. Therefore, the teacher and the learner can work together to enhance both of their works.

Structured collection of electronic documents of evidences related to a teacher's work is defined as a teaching e-portfolio.

It can be used by a teacher as a self-assessment and self-evaluation of teaching practices; it can also be used as strategies for developmental purposes. Besides, an e-portfolio could be used as an education resources which can help others in teaching and learning practices [5]. At last, a teaching e-portfolio frees users (includes teachers and students) from the traditional geographical and time constraints. It means the students can study outside the classroom and even in another country; and the teachers from other institution or even from other country can use some outstanding teaching e-portfolio as a kind of shared education resources in their teaching activities.

This comprehensive review of the e-portfolio application study may guide us a short cut or an easier approach to apply e-portfolio in Chinese higher education. Rather, the initial aim of this piece of work is to introduce the e-portfolio system to Chinese higher education institutions. Though the e-portfolio system has not yet been successfully applied in Asian education system, it is believed that it will be a worldwide accepted flexible assessment tools to estimate teacher competences and student learning soon.

II. THE SCOPE OF E-PORTFOLIO SYSTEM

E-portfolio is an assessment application tool. E-portfolios can comprehensively records students studying activities and the collected data of students studying details can be used to support educators and educational institutions to assess students' studying achievements and attitude. E-portfolios can also be used to collected educator's teacher activities, and this records can be used to support educational institutions to assess the educators teaching level.

E-portfolio is an education. All-sides of students' and educators' works can be recorded by the e-portfolio system during their educational activities. Therefore, e-portfolios must contain all the materials such as students' homework and educators' teaching resource can be used in students' preview and review process.

E-portfolio is a guidance of students' learning and educators teaching. Students and educators can review their studying and teaching e-portfolio to see their achievement and deficiency in their learning and teaching process. Therefore, e-portfolio is an authentic reflection of education; the education participants can avoid making the same mistakes in their education actives in the future.

E-portfolios can also be used in other aspects. For example, the employer can use it to assess if the students or educator matches their career requirements; educators can share their educational resources and experiences by sharing their e-portfolios and so on. Therefore, E-portfolios are flexible assessment tools to estimate teacher competences and student learning, but not only assessment tools.

III. E-PORTFOLIO IN WESTERN COUNTRIES

E-portfolios have been widely used to assess learners' achievement and enhance the learning process in Europe in the recent decades. The mainstream educational authorities believe students can store information conveniently; view and review their study purpose easily by using e-portfolios, in addition, e-portfolios are also being treated as a tool to promote student autonomy. In the beginning, only the European language portfolio encourages the use of e-portfolios to assess the language education. Firstly, they found that e-portfolio can be used as a tool to store the achievement and deficiency of a student; then, they recognized that the student can find out their weakness in study by viewing and reviewing the e-portfolios; finally, they understood that this kind of e-portfolios can increase students' awareness of learning process and help them to know more about themselves. Thus, e-portfolios were used to promote refection and self-reflection in European higher education [6, 7].

An investigation in Europe has proved that the use of e-portfolios in education provides an excellent instrument for improving student assessment and learning, as well as enhancing educator's teaching practices. The results also shown that e-portfolios are suitable for any level of education, include higher education. Thus, nowadays, the student e-portfolios and teaching e-portfolios are widely accepted by most of the European higher education institutions [8].

IV. E-PORTFOLIO IN HONG KONG AND TAIWAN

In the past two decades, e-portfolios have been gradually introduced to Hong Kong and Taiwan as a learning and assessment tool for academic students and their professors [9-12].

The use of e-portfolios is mainly promoted by tertiary institutions in Hong Kong. A series case studies accomplished by a Hong Kong tertiary institution reveal that, e-portfolios were used in education industry for the following three purpose: I. to collect evidences of students' studying works and teaching staff's teaching works; II to allow both students and teaching staffs to set the study goals, reflect and manage their teaching and learning materials experiences as a teaching & learning community; III. To help students and teaching staffs better understood their achievements and deficiency in the education process [10]. Some educators accept the e-portfolios as an efficient tool to assess and enhance their teaching; however, others regard uploading and managing the e-portfolios as wasting time.

E-portfolios was initially used to look the student feedback in language learning activity in Taiwan [13]. Thus, the e-portfolio system was originally designed for language teaching and studying. An investigation carried out in an education institution showed that most students give positive feedback on the use of the teaching e-portfolios system, and negative feedback on the use of the studying e-portfolios system. Although more research effort is carried out to improve their e-portfolio system currently, to apply it as a tool to enhance teaching and learning in higher education in Taiwan still has a long way to go.

V. THE PROBLEM OF THE USE OF E-PORTFOLIO IN CHINESE HIGHER EDUCATION

There are two main difficulties for the university students and teaching staffs to use e-portfolios in Chinese higher education institutions.

According to the conventional conception of some higher education authorities, the students and teaching staffs should take part the education activities together in a certain room at a certain time [14]. Most of the university students have to spend most of their time to take classroom lectures at school. Therefore, even some teaching e-portfolios that shared by individuals such as some experienced educators or work teams such as some tertiary education institutions can provide more efficient education than a traditional ordinary classroom education; the university student won't have enough time to use the e-portfolio to improve their study.

Internet is the only media for students and educators to set up and manage their e-portfolio. And the university website is one of the best place for their education practice participants to upload, download and manage their student e-portfolios or teaching portfolios. However, most of the Chinese higher education institutions ignored the construction of school website. Therefore, only very few of Chinese universities have student e-portfolios and teaching e-portfolio subpage in their website. Most of the students and teaching staffs in higher education institutions doesn't have an appropriate platform to build up their e-portfolios.

Currently, many tertiary institutions tend to establish a cloud server to set up an e-portfolio liked profile to manage some of the evidences of students or teaching works. It might be an alternative way to establish and use students and teaching e-portfolios in Chinese higher education system.

VI. CONCLUSION AND RECOMMENDATION

E-portfolios has been used in education system in many countries for many years. All the experiences of the application of e-portfolios shown that: I. students' learning initiative can be enhanced by using e-portfolios; II. Students' and their teachers can assess and evaluate the learning achievement by viewing and reviewing e-portfolios; III. Learners can autonomous learning by using the teaching e-portfolios; IV. A defective e-portfolio system cannot be easily accepted by the education activity participants. V e-portfolios could be an alternative way to establish and use students and teaching e-portfolios in Chinese higher education system.

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REFERENCES

[1] Gülbahar, Y. & Köse, F. Perceptions of preservice teachers about the use of electronic portfolios for evaluation. Ankara University, Journal of Faculty of Educational Sciences, 39(2), 75-93.2006.

[2] Pincombe, J., McKeller, L., Weise, M., Grinter, E., Beresford, G., ePortfolio in midwifery practice: the way of the future. Women and Birth 23, 94e102.2010

[3] Arter, J. A. & Spandel, V. Using portfolios of student work in instruction and assessment. Educational Measurement: Issues and Practice, 11(1), 36–44.1992

[4] Chang, C. C. Enhancing self-perceived effects using Web-based portfolio assessment. Computers in Human Behavior, 24(4), 1753–1771.2008

[5] Smith, K., & Tillema, H. Long-term influences of portfolios on professional development. Scandinavian Journal of Educational Research, 45(2), 183–203.2001

[6] Goldsmith, D. J. (2007). Enhancing learning and assessment through e-portfolios: A collaborative effort in Connecticut. New Directions for Student Services, 119, 31-42. doi: 10.1002/ss.247

[7] Pitarch, A., Álvarez, A., & Monferrer, J. (2007). e-PEL: paradigma de gestión de portfolios educativos. VIII Simposio Nacional de Tecnologías de la Información y las Comunicaciones en la Educación (SINTICE 2007). Presentado en SINTICE 2007, Zaragoza, Spain

[8] Pablo Amaya, J. Enrique Agudo, Héctor Sánchez, Mercedes Rico, Remedios and Hernández-Linares. Educational e-portfolios: uses and tools Social and Behavioral Sciences 93, 1169 – 1173,2013.

[9] Chau, J. A developer's challenges on an e-portfolio journey. ICT: Providing choices for learners and learning. Proceedings ascilite Singapore (Retrieved from http://www.ascilite.org.au/conferences/singapore07/procs/chau.pdf) 2007.

[10] Fisher_Vanden Karen, Thorburn, Karin. Voluntary corporate environmental initiatives and shareholder wealth. Journal of environmental economics and management, 62(3), 430-445. 2011

[11] Shroff, R. H., Deneen, C. D., & Ng, E. M.. Analysis of the technology acceptance model in examining students' behavioural intention to use an e-portfolio system. Australasian Journal of Educational Technology, 27(4), 600–618.2011

[12] Yueh, H., & Wang, Y.. A study of students' attitude toward the electronic portfolio practice. Bulletin of Educational Psychology, 31(2), 65–84.2000.

[13] Yueh, H. (2000). Assessment of portfolios for professional development: Nurturing pre-service teachers. Report for National Science Council (Retrieved from http://ntur.lib.ntu.edu.tw/bitstream/246246/17079/1/892511S002009.pdf).

[14] Pratt, D. D. Reconceptualizing the evaluation of teaching in higher education.Higher Education, 34(1), 23–44.1997.