Internet and Higher Education 20 (2014) 60–68

Contents lists available at ScienceDirect

Internet and Higher Education

Digital teaching portfolio in higher education: Examining colleagues' perceptions to inform implementation strategies

Ricci Wai-tsz Fong [a,*], John Chi-kin Lee [a], Chun-yen Chang [b], Zhonghua Zhang [c], Alexandra Chiu-yee Ngai [a], Cher Ping Lim [a]

[a] The Hong Kong Institute of Education, 10 Lo Ping Road, Tai Po, New Territories, Hong Kong, China
[b] The National Taiwan Normal University, 88, Section 4, Ting-Chou Road, Taipei 11677, Taiwan
[c] Assessment Research Centre, Melbourne Graduate School of Education, The University of Melbourne, Parkville, 3010 Victoria, Australia

ARTICLE INFO

Available online 27 June 2013

Keywords:
Digital teaching portfolio
Higher education
Teacher perceptions of technology use
Technology implementation

ABSTRACT

This paper examined the perceptions of academic and teaching staff about digital teaching portfolio to inform how implementation strategies in higher education can be made more effective. In light of the Technology Acceptance Model (TAM), a 38-item scale was adapted to tap into eight dimensions of their perceptions toward digital teaching portfolio, namely, Perceived Usefulness for Personal Benefit, Perceived Usefulness for Social Benefit, Ease of Use, Issues of Concern about Time, Issues of Concern about Technology and Support, Intention to Use Portfolio, and Computer Efficacy in using digital teaching portfolio by Self-Exploration, and Computer Efficacy in using digital teaching portfolio with Professional Guidance. A total of 132 teaching staff from two tertiary institutions from Hong Kong and Taiwan completed the questionnaire. The findings offer insights into how strategies for implementing digital teaching portfolio can be made more effective when the target users' perceptions are taken into account. Implications regarding how buy-in can be established and how institutional policies and culture can play a role in facilitating the outcomes of the implementation would be discussed.

1. Introduction

Using teaching portfolio as an instrument for staff to engage in professional learning and enhance their teaching effectiveness has been of growing interest in higher education (Baume & Yorke, 2002; De Rijdt, Tiquet, Dochy, & Devolder, 2006; Klenowski, Askew, & Carnell, 2006; Seldin, 1997; Wolf, 1991; Wright, Knight, & Pomerleau, 1999). In general, a teaching portfolio refers to "a purposeful collection of evidence, consisting of descriptions, documents and examples of what is good teaching…" (De Rijdt et al., 2006). The selective collection of artefacts offers teaching staff a tool to self-actualize personally and professionally, as well as to showcase their professional capacity and potentials for appraisal, tenure and promotion (Barrett & Carney, 2005; Wright et al., 1999). In the higher education context, many researchers believe that through documenting evidence of good teaching practices, professional growth, and reflections about one's teaching competences, teaching staff would be able to enhance their teaching effectiveness over time (De Rijdt et al., 2006; Klenowski et al., 2006; Wright et al., 1999).

In this paper, we focused on digital teaching portfolio given the emergence of educational technologies in tertiary institutions around the world. In addition to what paper teaching portfolio can contribute to one's teaching profession, digital teaching portfolio frees users from the traditional geographical and time constraints. It appears to be a useful tool for promoting professional learning and thereby has the potential to contribute to teaching effectiveness in higher education, however, implementation has been problematic (Barrett & Carney, 2005; Schneckenberg, 2009; Van Tartwijk, Driessen, Van Der Vleuten, & Stokking, 2007).

Besides the ever-increasing workload and administrative issues that may have discouraged teaching staff to use digital teaching portfolio, where technological innovation is concerned, establishing user acceptance is another big challenge (Schneckenberg, 2009; Van Tartwijk et al., 2007). A plethora of research on technology adoption suggests that user perceptions, such as perceived usefulness and perceived ease of use, are keys to inducing user buy-in (Ajzen, 1991; Chartrand & Bargh, 1999; Davis, 1993; Mathieson, 1991; Roca, Chiu, & Martínez, 2006; Shroff, Deneen, & Ng, 2011; Venkatesh & Morris, 2000; Yuen & Ma, 2002). In the case of implementing digital teaching portfolio, understanding how teaching staff perceive digital teaching portfolio, and how the different perceptions relate to one another to motivate or de-motivate usage intention could be the first step to devising strategies for implementing digital teaching portfolio in tertiary institutions/universities. Despite the decades of research on digital teaching portfolio, very few of the existing studies have specifically looked into the perceptions of teaching staff and how these perceptions are associated with their intentions to use digital teaching

* Corresponding author. Tel.: +852 29486446.
E-mail address: ricciwfong@gmail.com (R.W. Fong).

1096-7516/$ – see front matter © 2013 Elsevier Inc. All rights reserved.
http://dx.doi.org/10.1016/j.iheduc.2013.06.003

portfolio in the higher education context. This study is therefore designed to fill in the information gap for more effective planning of implementation strategies.

2. Digital teaching portfolio for teaching in higher education

It is to general consensus that tertiary institutions are responsible for providing quality teaching to enable quality student learning. However, Pratt (1997) pointed out that the conventional conception of teaching centers on the set of generic skills or actions undertaken by teaching staff, which is limited and has neglected the importance of intentions and underlying beliefs. Healey (2000) remarked that teaching staff "need to learn how to adopt a scholarly approach to teaching and how to collect and present rigorous evidence of their effectiveness as teaching staff. This involves reflection, inquiry, evaluating, documenting and communicating about teaching". Notably, digital teaching portfolio is a tool that allows teaching staff to engage in all these procedures of developing their teaching effectiveness (Baume & Yorke, 2002; De Rijdt et al., 2006; Klenowski et al., 2006; Seldin, 1997; Wolf, 1991; Wright et al., 1999).

At an individual level, digital teaching portfolio offers a context for articulating one's teaching philosophy, reflecting upon one's teaching, documenting evidence of teaching accomplishments for present and future employers, and through which, one's pride and esteem for teaching, as well as teaching practices could be enhanced (De Rijdt et al., 2006; Wright et al., 1999). At the community level, teaching portfolio encourages inquiry-based dialogues on teaching, facilitates the process of mentoring junior teaching staff and offers resources which helps develop effective criteria for teaching in a tertiary institution (Quinlan, 2002; Wolf, 1991; Wright et al., 1999). Although the strengths of (digital) teaching portfolio could be limited by such concerns and contextual factors as time constraints (De Rijdt et al., 2006; Taylor, 1997; Wright et al., 1999), the marginalized status of teaching (Pratt, 1997), and resistance from tenured staff (De Rijdt et al., 2006), the portfolio is nevertheless an instrument of great potential for professional development in higher education, both for individual staff members and the collective community.

3. Digital teaching portfolio in Hong Kong and Taiwan

The past two decades have witnessed tremendous changes in the role of educational technologies in the higher education landscape in Asia. Like those in western countries, tertiary institutions in Asia, are increasingly aware of the need to engage in pedagogical innovations and the opportunities that educational technologies can offer to the teaching and learning effectiveness. To these ends, tertiary institutions in Hong Kong and Taiwan, for instance, are gradually introducing digital portfolio as a learning and assessment tool for academic and teaching staff, as well as for students (Chau, 2007; Fisher et al., 2011; Shroff et al., 2011; Yueh & Wang, 2000). However, documentation is scarce and limited reference could be drawn upon to inform and refine implementation strategies.

In a series of 10 case studies carried out by a tertiary institution in Hong Kong (Fisher et al., 2011), digital portfolio was used for four purposes: 1) for institutional enhancement—to collect evidence for quality assurance; 2) for enhancement of learning and teaching—to allow both staff and students to set goals, reflect and manage their learning experiences as a learning community; 3) for employment and professional development—to promote reflective practices, articulation of expertise, evidence-based career planning for tenure review, awards and promotion; and 4) for academic advising—to promote self-awareness and facilitate the effectiveness of guidance provisions. The series of studies showed that staff's perceptions toward digital portfolio were mixed. Similar to the findings yielded in western countries (De Rijdt et al., 2006; Taylor, 1997; Wright et al., 1999), while some academic and teaching staff reported positive feedback, others expressed concerns about the amount of time they had to spare for this "unnecessary addition" to their usual teaching practices (Fisher et al., 2011; Yueh & Wang, 2000).

In Taiwan, the use of portfolio as a formative learning tool could at least be traced back to Yang (2002) which looked into students' reactions toward the use of portfolio in a language learning context. Although teaching portfolio, in particular, has been regarded as one of the major means for developing the pedagogical practices of teaching staff (Yueh, 2000), most of the studies were based in primary and secondary contexts. Involving five tertiary institutions and 403 undergraduate students, Lin and Lin (2011) carried out an 8-week investigation on students' acceptance of a digital teaching portfolio system. In that system, academic and teaching staff from the participating institutions used digital teaching portfolio for collecting information, course planning, engaging in professional dialogues with their fellow colleagues and students, managing and innovating from their acquired knowledge. The study showed that students were generally positive about the use of digital teaching portfolio, but the study did not attend to how the users, i.e. the teaching staff, perceived the experience. In fact, few tertiary institutions have disclosed the status of how digital portfolio is implemented. The dearth of documentation makes comparison, and thus, effective enhancement of implementation strategies difficult, if not impossible (Luo & Huang, 2010). More research effort is warranted to better understand and consolidate the associations between users' perceptions and acceptance of digital portfolio to capture the benefits that this new tool can possibly offer to enhance teaching and learning in higher education.

4. Perceptions and technology acceptance

One common issue that many tertiary institutions face when implementing educational technologies, such as digital teaching portfolio, is to establish usage intention and behavior. To date, the most widely used model of user acceptance and usage behavior is the Technology Acceptance Model (TAM) (Davis, 1989; Venkatesh & Davis, 2000). Developed based on the Theory of Reasoned Action (Ajzen & Fishbein, 1980), the model posits that users' perceived ease of use (process expectancy) and perceived usefulness (outcome expectancy) are the key indicators of usage intention and behavior (Davis, 1989; Venkatesh, 2000; Venkatesh & Davis, 2000). Individuals are more likely to use a newly-introduced system when they find it easy to use. The more they think that the system is easy to use, the more they will tend to find it useful, and accordingly, the more they are likely to use it in the end. Given that users' ease of use and perceived usefulness of a new system are the keys to encouraging usage intention and behavior, the question then is how these two key perceptions can be induced in the target users.

Stemming from the TAM (Davis, 1989), Venkatesh and Davis (1996) investigated the antecedents of users' perceived ease of use. They found that perceived ease of use is hinged upon one's general computer self-efficacy. If the target users perceive low computer self-efficacy, it is less likely that they will find the new technology easy to use. Further, Venkatesh (2000) showed that the antecedents can be classified into two categories, the anchors, i.e. general beliefs that individuals hold regarding computers and computer usage; and the adjustments, i.e. specific beliefs formed based on individuals' direct experience with the system concerned. More specifically, the anchors include computer self-efficacy, perceptions of external control (facilitating conditions), computer anxiety and computer playfulness (the openness to the process of using the system); while the adjustments are perceived enjoyment and objective usability. Together, the anchors and adjustments influence individuals' perceived ease of use, and eventually, their perceived usefulness and usage intention. In light of the model, it was suggested that user acceptance could be encouraged through the provision of training that focuses on