The Journal of Academic Librarianship xxx (xxxx) xxx–xxx

Contents lists available at ScienceDirect

The Journal of Academic Librarianship

journal homepage: www.elsevier.com/locate/jacalib

Keeping up the Momentum: A Longitudinal Evaluation of Professional Development in Digital Technologies for Academic Librarians at an Australian University

Frances O'Neil[a,*], Mark Pegrum[b]

[a] Library, Victoria University, PO Box 14428, Melbourne, VIC 8001, Australia
[b] Faculty of Education, University of Western Australia, Perth, WA 6009, Australia

Introduction

Effectively and critically using digital technologies to access, manage, create and disseminate information is an essential skillset for living, learning and working in a digital age. The concept of digital literacies, or the ability to make effective use of digital technologies, has emerged in tandem with the growth of networked communication technologies (Bawden, 2001; Dudeney, Hockly, & Pegrum, 2013). Shank and Dewald suggest that the growth of educational technologies, blended learning and digital literacies have converged in librarians' instructional roles (Shank & Dewald, 2012). As Helene Blowers acknowledged in her *23 Things* initiative, to be able to support contemporary uses of information by students, librarians need to participate in the new media mix (Stephens, Sayers, & Cheetham, 2010).

The *Emergent Technologies in Education* (ETE) seminar was originally developed at The University of Western Australia (UWA) in 2008 by educator Associate Professor Mark Pegrum in conjunction with librarian Ralph Kiel. Their report on its implementation appeared in an earlier issue of *College & Research Libraries* (Pegrum & Kiel, 2011). The seminar aimed to provide librarians with an understanding of e-learning pedagogies and the skills to develop digital resources, particularly using web 2.0 technologies, for blended library instruction. By 'blended' is meant the combination of face-to-face and online delivery of teaching and learning (Victoria University, 2016a).

The study that follows focusses on the first implementation of the professional development seminar at Victoria University. It identifies the main benefits of such professional development; considers the issues and challenges involved; and assesses the usefulness of future professional development courses of this kind.

Background

Victoria University (VU) is one of 38 publically funded universities in Australia. However, the University is in the unusual position of offering both Higher Education (degree) and Vocational Education (diploma) programs, and is one of only four dual sector universities in Australia to offer both programs. It has a large cohort of international students (29%) both overseas and onshore, mostly from Asian countries, and a highly divergent (educationally, culturally, linguistically and economically diverse) range of students spread across onshore campuses and offshore partner sites. Some 25% of the student cohort are from low socio-economic backgrounds and about 35% are mature-aged students.

VU Library has a strategic commitment (Victoria University, 2016b) to enhance the ability of VU students to easily find the information they require and to seek new digital technologies to deliver information and services. It does this in the context of the Australian information literacy principles (Australian Library and Information Association (ALIA) & Australian School Library Association (ASLA), 2016) and the Jisc digital literacy framework (Jisc, 2015). Moreover, the Library's practice is guided by the Australian Higher Education Standards Framework (Commonwealth of Australia, 2015). The VU Library has been focusing on e-books and e-journals acquisitions since the early 2000s. Library management has long expected its staff to have the digital competencies – or digital literacies – to support student and staff use of new media, as well as an understanding of the pedagogies that fit best with emerging educational technologies. This was the organizational context for the implementation of the first iteration of the ETE seminar at VU in 2011, with the aim of providing participants with both a theoretical overview and hands-on experience of digital technologies in higher education.

The *Emergent Technologies in Education* seminar encompassed a history of new technologies linked to new pedagogies, an examination of relevant educational theories and frameworks, a broad overview of current and emerging literacies with a strong focus on information literacy, and a consideration of issues and challenges arising. During the seminar, participants worked individually or in groups on organizationally framed library projects involving digital technologies, some designed for staff and others for students. They presented the final versions of these projects in a follow-up session two months later, framing them in terms of their organizational and educational benefits, before going on to implement them in their everyday roles. These projects placed a strong emphasis on the pedagogical aspects of

* Corresponding author.
E-mail addresses: frances.oneil@vu.edu.au (F. O'Neil), mark.pegrum@uwa.edu.au (M. Pegrum).

https://doi.org/10.1016/j.acalib.2018.05.009
Received 21 March 2018; Received in revised form 18 May 2018; Accepted 30 May 2018

teaching with new technologies, and their relationship to and role in supporting scholarly information management (O'Neil, Pegrum, & Miller, 2013).

The original UWA seminars were run one day a week over five weeks, or one day a fortnight over 10 weeks, but for logistical reasons the VU seminar was conducted in a five-day intensive mode. Over 50 VU staff members have participated in the seminar since 2011, with updated iterations being run in 2013 and 2015, alongside occasional supplementary workshops on topics of specific interest such as multimedia presentation guidelines or flipped learning approaches.

It was an expectation by the VU Library management that the seminar's impact should be evaluated and the implications of staff participation assessed. As with the UWA seminar, it was decided to conduct the evaluation using the Kirkpatrick and Kirkpatrick four-level Evaluating Training Programs model (Kirkpatrick & Kirkpatrick, 2006). This model measures: *Reaction* – what participants thought and felt about the training; *Learning* – the increase in participants' knowledge and skills, and changes in attitudes; *Behavior* – changes in participants' on-the-job behavior; and *Results* – organizational results achieved due to changes in participants' behavior. While data have been gathered from participants in each of the three VU seminar iterations to date, the focus of this paper is on the initial 2011 intake, which has allowed us to follow this cohort over half a decade. Thus, consistent with the Kirkpatrick and Kirkpatrick model, analysis of the data from the 2011 intake has enabled an examination of changes and development over time (Gray, 2014).

Literature review

Academic librarians have a longstanding role in supporting students and academics in scholarly information management through library instruction. In an information-rich, networked scholarly environment, librarians with enhanced skillsets, and in particular with expertise in new technologies, are needed to support students in how they learn, use information, and participate in the life of an increasingly online learning community (O'Neil et al., 2013). This study discusses an initiative to familiarize librarians with how new technologies can be used in innovative and pedagogically grounded ways in library instruction. Library instruction in this instance is the teaching practice or "the teaching itself", as defined by Nygaard and Serrano (2010), that librarians carry out.

In the library and information science (LIS) literature, the need for ongoing development of digital literacies and fluency for librarians is recognized including by Houghton (2012), Riley-Huff and Rholes (2011), Robertson (2014), the Society of Chief Librarians (2015), and the State Library Victoria and Public Libraries Victoria Network (2014), to name a few. However, there is less in the LIS literature on organizational responses to the need for technology training grounded in contemporary pedagogy. Indeed, much of the LIS literature around librarians' continuing professional development (PD) remains focused on technology training without a strong pedagogical element.

One of the best-known earlier initiatives to address rapidly changing information and communications technologies (ICTs) at an organizational level in academic libraries was the program designed by librarian Helene Blowers. Known as *23 Things*, it was based on 'things' on the web which could serve as a base to explore and expand one's knowledge of the internet and web 2.0 (Abrams, 2006). In their assessment of organizational programs based on *23 Things* that aimed to support academic librarians in developing new technology skills, Quinney, Smith, and Galbraith (2010) emphasized the value of principles of adult learning linked to self-directed learning, and noted the need for ongoing PD to accompany changing technologies. Stephens, Sayers and Cheetham surveyed Australian organizations that had implemented *23 Things*, observing that the program could "lead to more informed discussions and problem-solving" using new technologies (Stephens et al., 2010, p. 12). Ultimately, *23 Things* remained largely focused on the technology itself.

Edwards, McLean and Cleave have reported on the development of an online training program to enhance the ICT and digital literacy skills of public library staff (Edwards, McLean, & Cleave, 2016). The program, while still in development, is largely aimed at developing staff familiarity with technologies and platforms. The authors acknowledge the limitations of such an approach, given the fast-moving ICT environment, but also in terms of achieving what they consider a "higher goal", that of "not only knowing how to use technological tools but also knowing how to construct things of significance with those tools" (Papert & Resnick, cited in Edwards et al., 2016, p. 14). They recognize that the digital literacy skillset is not just about the technologies but rather the skills to apply the technologies within library practice.

By contrast, the current study focuses on an in-house PD program designed to support academic librarians' acquisition of new technology skills *and* contemporary pedagogical understandings of how learning takes place and how effective instruction should be designed (Shank & Bell, 2011). Organizational responses to the need for technology training grounded in contemporary pedagogy are thus a key point of focus of the current study. Pegrum and Kiel noted the lack of availability of this kind of training for librarians (Pegrum & Kiel, 2011). Their report also noted that the original seminar gave rise to a new way of talking among library staff. In particular, library staff were found to be talking about digital technologies and how such technologies might be used for new projects and initiatives. Since Pegrum and Kiel's study was based on an earlier version of the same seminar and used the Kirkpatricks' evaluation model, their work is a point of comparison for the current study.

Methods

In this study, training evaluation is defined as: "Any attempt to obtain information (feedback) on the effects of a training programme, and to assess the value in the light of that information" (Hamblin, cited in Stites, 2009, p. 229). Stites states "there is no generally accepted method of evaluating … library staff training" (Stites, 2009). Smith suggests the Kirkpatricks' model is the most common in assessing human resource development outcomes, but also mentions that few use cases go beyond the first level of the framework (Smith, 2004). Shupe and Pung indicate that the Kirkpatricks' model is appropriate to evaluate a library's training programs (Shupe & Pung, 2011). VU Library had previously applied it to the evaluation of another program and deemed it good practice to apply the same framework to other initiatives such as the ETE seminar in order to facilitate understandings and comparisons.

The Kirkpatricks' model has been in use for many years, although modifications have been suggested (Islam, 2004). However, for consistency with the previous evaluation of the UWA seminar, the original four-level framework was used in the current study. Moreover, while there have been some critiques of the Kirkpatricks' model (Giangreco, Carugati, & Sebastiano, 2010; Holton, 1966), and while in particular there might be limitations around the assumed causality and the higher value of the Results dimension (Bates, 2005), it has proven to be a useful method for assessing the extent of a program's success in achieving its outcomes. Yet Watkins, Leigh, Foshay, and Kaufman (1998) suggest that the majority of evaluations applying the Kirkpatricks' framework primarily analyze level one (Reaction); a smaller number use levels one and two (Reaction and Learning); and only 2% use the four levels of evaluation (Reaction, Learning, Behavior, and Results). This is in line with the later work of Smith (2004), cited above. Applying the four levels does require a longitudinal approach allowing a period of time to elapse between the training and the data collection, so participants to have the opportunity to put their learning more fully into practice. Unfortunately, the dearth of four-level evaluations both generally and in LIS specifically limits the possibility of wider comparisons.