



Library Hi Tech

A framework for workplace information literacy in academic contexts: Central University of Technology, Free State (South Africa) as case study
Jeannet Molopyane Ina Fourie

Article information:

To cite this document:

Jeannet Molopyane Ina Fourie , (2015),"A framework for workplace information literacy in academic contexts", Library Hi Tech, Vol. 33 Iss 4 pp. 562 - 583

Permanent link to this document:

<http://dx.doi.org/10.1108/LHT-02-2015-0013>

Downloaded on: 15 November 2016, At: 22:30 (PT)

References: this document contains references to 66 other documents.

To copy this document: permissions@emeraldinsight.com

The fulltext of this document has been downloaded 426 times since 2015*

Users who downloaded this article also downloaded:

(2015),"Social media optimization: making library content shareable and engaging", Library Hi Tech, Vol. 33 Iss 4 pp. 526-544 <http://dx.doi.org/10.1108/LHT-05-2015-0053>

(2015),"What to make of makerspaces: Tools and DIY only or is there an interconnected information resources space?", Library Hi Tech, Vol. 33 Iss 4 pp. 519-525 <http://dx.doi.org/10.1108/LHT-09-2015-0092>

Access to this document was granted through an Emerald subscription provided by emerald-srm:563821 []

For Authors

If you would like to write for this, or any other Emerald publication, then please use our Emerald for Authors service information about how to choose which publication to write for and submission guidelines are available for all. Please visit www.emeraldinsight.com/authors for more information.

About Emerald www.emeraldinsight.com

Emerald is a global publisher linking research and practice to the benefit of society. The company manages a portfolio of more than 290 journals and over 2,350 books and book series volumes, as well as providing an extensive range of online products and additional customer resources and services.

Emerald is both COUNTER 4 and TRANSFER compliant. The organization is a partner of the Committee on Publication Ethics (COPE) and also works with Portico and the LOCKSS initiative for digital archive preservation.

*Related content and download information correct at time of download.

A framework for workplace information literacy in academic contexts

Central University of Technology, Free State (South Africa) as case study

Jeannet Molopyane and Ina Fourie
University of Pretoria, Pretoria, South Africa

Abstract

Purpose – The purpose of this paper is to suggest a framework for workplace information literacy based on a case study at the Central University of Technology (CUT), Free State (South Africa).

Design/methodology/approach – The framework is based on a literature survey covering case studies from the private, public and academic sector and a case study conducted at the CUT, Free State (South Africa). A mixed methods approach was followed using questionnaires, individual interviews and focus group interviews. Descriptive statistics and qualitative data were collected.

Findings – The data analysis reveals a need as well as support for workplace information literacy. It addresses institutional buy-in, the need for alignment to the institutional strategy, inclusion of workplace information literacy in job descriptions, whether workplace information literacy should be optional or mandatory, whether it should address the needs of all staff members, the responsibility for a workplace information literacy programme, perceived benefits, etc.

Practical implications – The proposed framework can be used at the CUT, Free State. As a general framework it can also be used in other academic contexts as well as in the public and private sector.

Originality/value – Although several studies on workplace information literacy have been reported, the literature survey did not trace a suitable framework that can guide the design and implementation of workplace information literacy in academic contexts. This paper intends to contribute towards filling this gap.

Keywords Academic libraries, Case studies, Workplace information literacy

Paper type Research paper

1. Introduction

The ideology and concept of “workplace information literacy” is drawing increasing interest from organisations in the public and private sector (Kirton and Barham, 2005; Klusek and Bronstein, 2006, p. 3), as well as at academic institutions (Conroy, 2006, p. 3; Harris *et al.*, 2004). With global competition, sustainability and growth in mind, organisations are under more pressure to ensure that employees are information literate (Kirton and Barham, 2005). According to Gurke (2012, p. 22) “information literacy is essential” for people entering the job market. The Australian National University (ANU) even had information literacy as a pre-requisite for new staff recruits (ANU Human Resource Department, 2004). Higher education in South Africa can also benefit from adopting workplace information literacy in order to compete on national and international levels.

This paper reports findings from a case study on the need for workplace information literacy skills and a workplace information literacy programme at the Central University of Technology (CUT) Free State (the Free State is a South African province). It presents the results of a literature study, the rationale for the study, the methodology,



selected findings and a framework for the design and implementation of workplace information literacy. The general nature of the framework makes it suitable for other institutions of higher education as well as those in the private and public sector.

2. Background

Workplace information literacy is not a new concept. It has been used in a number of earlier publications (Bruce, 1999; Lloyd, 2005; Oman, 2001; Rosenberg, 2002), and it builds on basic information literacy at school, under-graduate and graduate levels (Cooney and Hiris, 2003; Malu and Wu, 2004; Vicki, 2003). Recently interest in workplace information literacy has been increasing (Lloyd, 2011; Madu and Dike, 2012; Sokoloff, 2012).

The CUT, Free State is a South African university. Its main campus is in Bloemfontein – a city in the Free State province. It attracts students from the Free State, other South African provinces, Southern African Development Community countries and even neighbouring countries such as Lesotho and Botswana. The institutional vision and mission inspire its strategy and serve as guidelines for what academic and other staff members should strive for (Central University of Technology, Free State, 2007). In addition it needs to meet with demands from society for increased productivity and pressure to keep a competitive edge in the academic context. Against this background a study on the need for workplace information literacy, and how to approach it unfolded.

3. Definition of workplace information literacy

According to Kirton and Barham (2005) workplace information literacy refers to the ability to locate, access, and apply information to assist in resolving job-related challenges, and to use a variety of appropriate information resources at work (Inskip, 2014, p. 2). Klusek and Bronstein (2006, p. 3) note that according to the American Library Association presidential committee, an information literate workforce is one that knows how to learn, knows how knowledge is organised, can locate information and uses information in such a way that others can learn from them.

4. Research methodology

The study was guided by the question:

What should a framework to promote workplace information literacy in academic settings (i.e. higher education) entail?

Finding an answer required a review of the literature on workplace information literacy as well as relevant case studies from the private, public and academic sectors, and empirical work using the CUT, Free State as a case study.

4.1 Literature review

The literature on workplace information literacy includes opinion papers, research reports and several case studies (Molopyane, 2014). Workplace information literacy has been explored in different settings such as in engineering (Cheuk, 1998; Gurke, 2012), healthcare (including evidence-based practices) (Barnard *et al.*, 2005; Fourie, 2008; Tanner *et al.*, 2004; Wahoush and Banfield, 2014) and higher education (Conroy, 2006; Harris *et al.*, 2004; Hepworth and Smith, 2008). Findings confirm the need for workplace information literacy. Cheuk (2008) found that staff was using outdated information, lacked awareness regarding information resources, lacked knowledge regarding tools to access the best information, experienced e-mail overload and were unwilling to share information. Gurke (2012, p. 22) learned that engineers need information from trusted

sources such as trusted publishers and technical societies. They also need specialised information such as standards and codes.

Workplace information literacy is also important for safety professionals (Yang, 2012, pp. 294-295). They need information on machinery and equipment, the industrial safety thereof, human behaviour that can affect safety, the reduction of accidents in the workplace and work-related illnesses. Due to the nature of their work, information literacy and skills in evidence-based information seeking is especially important for information professionals and librarians (Partridge *et al.*, 2010, p. 278).

Fourie (2008) argues for information literacy for healthcare professionals; they need evidence-based information and face many challenges regarding lack of time to seek information and inadequate experience in using the internet. Skills in evidence-based information seeking and the use of information are often required from healthcare professionals (Mokhtar *et al.*, 2012; Ovaska, 2012). It has also been argued that teachers need information literacy skills (Korobili *et al.*, 2011; Merchant and Hepworth, 2002). Fourie and Krauss (2011) report on the basic applied computer literacy and information literacy skills of teachers in a developing (rural) context in South Africa. They argue that a once-off training project is not sufficient to address the dire situation of South African teachers regarding inadequate computer and information literacy skills (Fourie and Krauss, 2011, p. 113). In the South African contexts some other early initiatives, as well as arguments for workplace information literacy, were also reported. Hepworth and Walton (2009, p. 221) refer to the workplace information literacy initiatives of the Community Development Resource Association – but, without going into further details, while Paris (cited in Gwyer *et al.*, 2012, pp. 133-134) notes the need for cooperation between universities and public libraries in the city of Johannesburg regarding an information literacy initiative to address unemployment through training.

Several case studies have been reported from the public, private and academic sector (Molopyane, 2014). These include the cases from higher education such as the ANU (ANU Human Resource Department, 2004) and the Griffith University (Bruce, 1994), the public sector such as the case of public servants in Kaohsiung city in Taiwan (Chou *et al.*, 2011, pp. 251-265) and the study on the information literacy capabilities of Kuwait police officers (Al-Daihani and Rehman, 2007, p. 614), as well as the private sector including the cases of Blake Dawson Waldron law firm (Swords and O'Sullivan, 2004, p. 336) and Unilever R&D (Donnelly and Craddock, 2002). For this paper, only reports on academic case studies are considered. There are many earlier initiatives setting the tone. Work from Australia, inspired by Christine Bruce (1994), is especially important. She introduced a staff information literacy programme at Griffith University (Bruce, 1994). At the time, the staff development strategy for information literacy was not enforced. The aim of the programme was to enable staff to update their skills regularly and to ensure that information literacy is included in academic programmes and teaching strategies. In 2004 the ANU reported a workplace information literacy strategy. They introduced a campus-wide information literacy programme and made information literacy a pre-requisite during staff recruitment. Information literacy also had to be included in the duties and job descriptions of new recruits (ANU Human Resource Department, 2004).

Another earlier academic initiative worth noting is the Joint Information Systems Committee (JISC) Big Blue Connect project launched between June and December 2003. This project investigated the different patterns of support staff in higher education in using information to fulfil their tasks in their work environment (Harris *et al.*, 2004, p. 2).

The initiative was a joint effort of Manchester Metropolitan University library and Leeds University library. At the time, JISC also funded the Netskills workshop in the UK (a continuation of the Big Blue Connect) to study the information literacy skills of staff in higher education (Conroy, 2006, p. 3).

More recently Hepworth and Smith (2008, pp. 212-236) report on a JISC project funding Leeds University and Loughborough University with regard to the information literacy skills of non-academic staff in higher education institutions in the UK. They found that support staff had challenges with identifying information, critically evaluating information, adapting the information, organising and communicating the information; these were skills to be addressed (Hepworth and Smith, 2008, pp. 216-218). In a report on the integration of workplace information literacy skills for bilingual (Spanish/English) professionals in the USA, Hicks (2014, p. 21) reports that information played a role in bilingual workplaces in the USA. The research participants often had to make considerable efforts to look for the right translations, e.g. searching for a register of legal English. Hicks (2014, p. 29) concluded that participants need information skills to carry out their tasks.

The literature study revealed important issues to consider when investigating the need for workplace information literacy and when developing a programme. This includes the:

- acceptance of the need for and importance of workplace information literacy by the organisational management and staff: the buy-in and support of top management as well as academic and support services staff are essential for success (Hepworth and Smith, 2008, p. 212; Johnston as cited in Walton and Pope, 2006; Secker, 2011, p. 13);
- importance of an institutional and individual needs analysis and a situational analysis (Macoustra, 2003; Clark cited in Xenitidou and Gilbert, 2009, p. 55; Gupta *et al.*, 2007, p. 1);
- need to align workplace information literacy with the institutional corporate strategy, vision and mission (Grassian and Kaplowitz, 2001, p. 266);
- need for decisions on programme objectives and outcomes, content, use of technology, training formats (e.g. workshops) and training intervals (Donnelly and Craddock, 2002);
- need to secure administration for a workplace information literacy programme (Cheuk, 2008, p. 138; Grassian and Kaplowitz, 2001, p. 151);
- need to raise awareness for workplace information literacy and for marketing workplace information literacy programmes (Donnelly and Craddock, 2002; Sayers, 2006, p. 17);
- need for on-going programme monitoring and evaluation (Allan, 2007, p. 94; Grassian and Kaplowitz, 2001, p. 167); and
- need for input by information professionals (Cheuk, 2008).

4.2 Empirical component

Following the work reported by the ANU (ANU Human Resources Department, 2004) a case study approach was chosen involving the CUT, Free State (South Africa). This was done according to guidelines from Mills *et al.* (2010) and Noor (2008). The first

author is a librarian at the CUT. At the time of data collection in 2011 the university had 583 academic, 957 other staff members and 12,675 students.

Ethical clearance to do the data collection was obtained from the CUT, Free State Research Department as well as the academic institution where the research was supervised (Research Ethics Committee, Faculty of Engineering, Built Environment and Information Technology, University of Pretoria). All participants had to sign a form of informed consent. Participants were assured that their anonymity will be protected.

4.2.1 Research participants. Similar to the work reported by Onwuegbuzie and Leech (2007, p. 111), purposeful and convenient sampling were used to identify participants. People from all levels and sectors of the university were approached to complete the questionnaire. From the 200 questionnaires distributed, 136 were returned with only 121 completed (thus a response rate of 60.5 per cent). Interview participants were selected for their potential value as the university's decision makers (i.e. purposeful selection) resulting in 20 participants from various management levels. They included staff from human resources, a dean, heads of departments and a registrar. Members from key committees such as the research, library, institutional forum and institutional equity committees were also interviewed.

4.2.2 Methods of data collection. A mixed method approach was followed to collect a combination of qualitative and quantitative data. Mixed method research involves collecting, analysing and interpreting both qualitative and quantitative data for the same study, and in using more than one method of data collection such as questionnaires in combination with interviews (Case, 2012, pp. 262-263; Creswell and Plano Clark, 2011; Leedy and Ormrod, 2015, 2014; Pickard, 2013; Truscott *et al.*, 2010). If applied correctly it can yield richer insight in comparison to using only a single method (Venkatesh *et al.*, 2013, p. 21). The study collected and analysed descriptive statistics and qualitative data which is in-line with the views of Gorman and Clayton (2005, pp. 12-13) and Hart *et al.* (2009).

The questionnaire covered demographic information, questions on information needs, needs for training, incorporation of workplace information literacy into the training plan and problems experienced. Questions were mostly based on a Likert scale. Three open ended questions were also included. Individual and focus group interviews were used as appropriate to collect further information on the views and perceptions of staff.

4.2.3 Data analysis and findings. Findings from the questionnaires collecting mostly quantitative data, as well as the interviews collecting mostly qualitative data are dealt with in more detail by Molopyane (2014). For purposes of presenting the framework for workplace information literacy in this paper it is important to consider the portions of staff members who:

- agreed on the potential impact of workplace information literacy on the competitive advantage of the institution;
- recognised the need for skills to effectively and efficiently complete information tasks;
- acknowledged that a lack of workplace information literacy skills can result in missed opportunities;
- agreed on the importance of workplace information literacy skills for organisations;

- agreed on workplace information literacy training as part of the corporate strategy;
- agreed on information literacy as enforced vs optional;
- agreed on the inclusion of workplace information literacy in job descriptions; and
- agreed on workplace information literacy testing as part of the recruitment process.

Data on these issues were collected through the questionnaires, and is mostly analysed as quantitative data.

It was also considered important to consider the perceptions and views of participants in their own words on:

- the importance of workplace information literacy;
- the importance of training in workplace information literacy;
- recommendations regarding the nature of workplace information literacy training for CUT, Free State;
- including workplace information literacy into the CUT, Free State's corporate plan;
- responsibility for workplace information literacy training;
- raising awareness for the implementation of workplace information literacy training;
- monitoring workplace information literacy applications;
- the role of the library in promoting workplace information literacy; and
- committees' roles.

The above were analysed in alignment with findings from the literature and used to develop the framework.

4.2.3.1 Quantitative analysis. Tables I-XII are given to support the claim that participants overall strongly supported workplace information literacy, and that they

Perceptions on the potential impact	Frequency ($n = 120$)	%	<p>Table I. Perceived potential impact of workplace information literacy on gaining a competitive advantage in carrying out information-related tasks</p>
Strongly agree	55	45.8	
Agree	55	45.8	
Disagree	7	5.9	
Strongly disagree	3	2.5	
Total	120	100	

Perceptions on needs for skills	Frequency ($n = 120$)	%	<p>Table II. Need for skills to effectively and efficiently complete information tasks</p>
Strongly agree	33	27.5	
Agree	67	55.9	
Disagree	16	13.3	
Strongly disagree	4	3.3	
Total	120	100	

LHT
33,4

recognise the importance of workplace information literacy. Without actually extending the sample it is not possible to speculate if more people would have resulted in a less positive reaction on the need for workplace information literacy – especially since participants represented a variety of levels in the institution. It might also be that although participants recognise the importance of workplace information literacy,

568

Table III.	Perceptions on potential	Frequency (<i>n</i> = 121)	%
Opinions on whether a deficiency in workplace information literacy skills results in missed opportunities	Strongly agree	74	61.1
	Agree	43	35.5
	Disagree	2	1.7
	Strongly disagree	2	1.7
	Total	121	100

Table IV.	Importance of workplace information literacy skills for organisations	Frequency (<i>n</i> = 119)	%
Importance of workplace information literacy skills for organisations	Strongly agree	82	68.9
	Agree	32	26.9
	Disagree	3	2.5
	Strongly disagree	2	1.7
	Total	119	100

Table V.	Part of corporate strategy	Frequency (<i>n</i> = 119)	%
Workplace information literacy training as part of the corporate strategy	Strongly agree	76	63.9
	Agree	38	31.9
	Disagree	2	1.7
	Strongly disagree	3	2.5
	Total	119	100

Table VI.	Need for a corporate training support plan	Frequency (<i>n</i> = 121)	%
Responses to a formal workplace information literacy training programme	Strongly agree	75	61.9
	Agree	42	34.7
	Disagree	2	1.7
	Strongly disagree	2	1.7
	Total	121	100

Table VII.	Enforcement vs optional	Frequency (<i>n</i> = 120)	%
Workplace information literacy as enforced or optional	Enforced	66	55
	Optional	54	45
	Total	120	100

their actual support when implementing such a programme might not match their views on its importance. (This will need to be addressed in follow-up research.)

Although 121 questionnaires were returned, not all participants replied to all questions. The frequency (*n*) indicated in the tables sometimes thus is less than 121.

When combining responses reflecting strong agreement and agreement on the potential impact of workplace information literacy on gaining a competitive advantage, a result of a 110/120 (91.6 per cent) shows. A total of 10/120(8.4 per cent) disagreed and strongly disagreed. The detail is reflected in Table I.

A very large majority of participants (100/120; 83.4 per cent) agreed that they felt that they did not have the skills to effectively and efficiently complete information tasks. Only 20/120 (16.6 per cent) disagreed and strongly disagreed. Detail of responses is depicted in Table II.

Need for assessment and certification	Frequency (<i>n</i> = 120)	%
Strongly agree	29	24.1
Agree	62	51.7
Disagree	3	2.5
Strongly disagree	26	21.7
Total	120	100

Table VIII.
Assessment and
certification for
workplace
information literacy
training

Part of job descriptions	Frequency (<i>n</i> = 119)	%
Strongly agree	27	22.7
Agree	58	48.7
Disagree	5	4.2
Strongly disagree	29	24.4
Total	119	100

Table IX.
Workplace
information literacy
as part of the job
descriptions

Workplace literacy and recruitment	Frequency (<i>n</i> = 119)	%
Strongly agree	17	14.3
Agree	45	37.8
Disagree	16	13.4
Strongly disagree	41	34.5
Total	119	100

Table X.
Inclusion of
workplace
information literacy
testing in the
recruitment process

Target groups for training	Frequency (<i>n</i> = 109)	%
Some individuals	14	12.8
Everybody/all personnel/all staff	62	56.9
Academic staff	33	30.3
Total	109	100

Table XI.
Whom should the
training include?

LHT
33,4

570

Table XII.Workplace
information literacy
job responsibility
designation

Department	Frequency (<i>n</i> = 107)	%
Library	62	57.9
HR and library	6	5.6
Library and research	2	1.9
Training and development	10	9.3
Library and training and development	4	3.7
ICT	8	7.5
HR	6	5.6
E-learning	2	1.9
Education	2	1.9
Institutional planning	2	1.9
Humanities	1	0.9
Those that need it	2	1.9
Total	107	100

A strong majority of participants (117/121; 96.6 per cent) agreed that a lack of workplace information literacy skills can result in missed opportunities. Only 4/121 (3.4 per cent) disagreed on the matter. The detail of responses is reflected in Table III.

Table IV reflects respondents' rating of the importance of workplace information literacy training. A very large majority of 114/119 (95.8 per cent) agreed on the importance of workplace information literacy for organisations. Only 5/119 (4.2 per cent) disagreed and strongly disagreed.

Table V reports responses on workplace information literacy as part of the corporate strategy. Positive answers to this were very strong (114/119; 95.8 per cent) with just 5/119 (4.2 per cent) not agreeing that workplace information literacy should be part of the corporate strategy.

A total of 117/121 (96.6 per cent) of respondents supported the idea of a formal training plan for workplace information literacy. Only 4/121 (3.4 per cent) disagreed on this. The detail is depicted in Table VI. This is in-line with the qualitative data findings where participants suggested that workplace information literacy should form part of the new staff induction programme.

A majority of 55 per cent (66/120) indicated that workplace information literacy should be enforced, while 45 per cent (54/120) indicated that it should be optional. This is reflected in Table VII. The findings from the qualitative data revealed that if workplace information literacy is part of the strategic plan, then it will be mandatory.

Responses on the need for assessment and certification are reflected in Table VIII. A total of 91/120 (75.8 per cent) agreed on the need for assessment and a certificate, with only 29/120 (24.2 per cent) disagreeing.

A total of 85/119 (71.4 per cent) of the respondents agreed on the need for workplace information literacy to be part of job descriptions, with a total of 34/119 (28.6 per cent) disagreeing about the need to include workplace information literacy in job descriptions. The results are depicted in Table IX.

A total of 62/119 (52.1 per cent) were in favour of workplace information literacy testing as part of the recruitment process, with a total of 57/119 (47.9 per cent) disagreeing on this. The results are depicted in Table X.

Responses revealed a 62/109 (56.9 per cent) preference for the training of all staff, a 33/109 (30.3 per cent) preference for training only academics, and a 14/109

(12.8 per cent) preference for training only some individuals. This is supported by the qualitative data views that all staff and not only academics and staff in higher academic positions should be trained. It is worth noting since this imply the need to take a wider view on workplace information literacy as just seeking information for research, lecturing and executive decision making. As noted in the reports on the qualitative data it was even explicitly noted that even the poorest of the poor need to benefit from a workplace information literacy programme. The results are reflected in Table XI.

A large percentage of respondents (57.9 per cent; 62/107) indicated that the library should be responsible for workplace information literacy. Responses for all other options are less than 10 per cent. And even then the library was often noted as an important role-player or for taking a steering initiative in the qualitative data findings. These are depicted in Table XII.

4.2.3.2 Qualitative data analysis. Qualitative data was collected through interviews (individual as well as focus groups). The interview themes emerged from the literature review and were used to supplement findings from the questionnaire data. Interviews were recorded, discussions were freely transcribed and then analysed for requiring issues as well as unique points raised. Only some are reflected here to support the rationale for the proposed framework. The rationale is in-line with support garnered from the quantitative data regarding key points concerning the components of the framework. More detail can be found in Molopyane (2014). Participants were numbered as individuals, e.g. P1 or as a committee member (codes differed per committee). In the interviews participants confirmed the importance of, and the need for workplace information literacy. This is not surprising since it is in-line with what was noted in the literature review. A valuable insight is, however, the actual needs for information – being much wider than just for completing work roles and tasks, as well as the needs for sharing and empowering others in the workplace. Academic libraries taking on the implementation of workplace information literacy should take note of the needs of individuals regarding the workplace as such, and for making a difference in the institution.

Importance of workplace information literacy: according to participants workplace information literacy can deepen expertise and the ability to impart information to others and it can help to sharpen research skills. It can also assist staff to become aware of their rights. Participants' opinions are reflected in the following verbatim responses:

Well I eh workplace information literacy within a higher education institution I think enables someone to Ja[1] you know more about your area of expertise, it also helps in imparting information to other people, eh also helps in uh sharpening your research skills[...] (P20).

[...] workplace information literacy actually helps to make people actually aware about what's going on particularly at the workplace [...] it also helps them know about their rights at the workplace eh things like the equity policy and that kind of thing that affect them. Ja, it would quite be useful (P15).

Importance of training in workplace information literacy: participants stressed that workplace information literacy training can encourage specialisation, the building of confidence, and motivation to improve services. It can also support efficiency and effectiveness in the workplace by empowering people to have a deeper understanding of their fields and improve the quality of service they provide on a regular basis. Participants' opinions are reflected in the following selection of verbatim quotations:

It will help people to know the importance of really their fields [...] It will build up confidence in the workers (P1).

Employees will be developed in their area so as to render quality services (P5).

Managers will be empowered to manage effectively (P7).

Recommendations regarding the nature of workplace information literacy training for CUT, Free State: some participants recommended workplace information literacy training provision during new staff induction processes (i.e. a two-week programme). Refresher courses were also suggested. They noted the value of the library, and that the responsibility for training should lie with the library, in collaboration with academic departments, faculties and the human resource department. The prominence of the library for initiating and steering the implementation of workplace information literacy programmes is thus stressed again. Participants' opinions are reflected in the following selection of verbatim quotations:

I assume it must be part of an induction programme (P7).

I think one should start, you know when having induction of new staff, I think we and I hope we will be addressing it very soon in HR [Human Resources]. There is a drive towards our induction programme. Instead of having a one day induction with all these you really like fly by the information, you know in government [...] you'll have like two weeks induction where you almost go like and it's compulsory, you must undergo it [...] so for example we have the intranet, we have these websites that you can get information from so in our induction programme we must really teach our new staff where they must look for information, how they must search for information really spend a day or two on that [...] and then don't leave it there because there's changes over time especially in our technology. Have an annual refresher course for your people to say "right guys let's go for a refresher, I would almost want to say make it compulsory so that your people stay updated" (P9).

[...] even if a refresher course on the latest in the market in as far as services are concerned, I mean we need to be able to benchmark sometimes so that we can be at the top of the game (P10).

Workplace information literacy inclusion into the CUT, Free State's corporate plan: opinions regarding workplace information literacy as part of the CUT corporate plan elicited phrases such as "forcible", "mandatory", "no choice" and "compelled". The quantitative data results reveal that majority of respondents, (114/119; 95.8 per cent) supported workplace information literacy as part of the strategic corporate plan. Participants' opinions are reflected in the following selection of verbatim quotations:

I suspect so. If it is part of the strategic plan, it becomes forcible to everybody. That is my take on it (P1).

If it is part of the CUT corporate plan then it will be mandatory. People will have no choice – will be compelled to do it (P6).

That's why I say it can be an issue that is compulsory so that we assist our staff to keep on developing that skill (P9).

Two participants stated that if workplace information literacy is part of the corporate plan it will then form part of the staff induction programme:

I think it should, yes, and I think maybe it should be incorporated into the induction plan or a separate entity where people are informed (P2).

Yes, I think like I've said now that if it's part of the corporate plan then it will be included in your like induction, is one of your foundation of the corporate plan ne, so definitely (P9).

Designation of responsibility for workplace information literacy training: participants recommended the responsibility for workplace information literacy training to rest with the library and information services, human resources, organisational development and university management. Some mentioned that the library staff is better skilled regarding information literacy and therefore should take responsibility for it. Participants' opinions are reflected in the following selection of verbatim quotations:

People who are working in the library and information services, because you talk research; those people are our resource personnel. You want knowledge, it's in the library I hope and believe that has to be the LIS [Library and Information Services] [...] (P3).

We have the library, and then the authorities, which is the management should drive that (P5).

The people in the library know the value of information and how information is used, stored accessed and so on. So I think they need to play a certain role, but I think ultimately that is eh what I often call a transversal role. It's a role that resorts across the institution and therefore every manager is responsible for information where they sit, where he or she sits and across the institution we have a core responsibility for information [...] Firstly and of course there's a primary role the LIC [Library and Information Centre] plays because they are professionally trained in information [...] managers and employees, especially managers across the institution are responsible for workplace information and workplace information literacy (P13).

Library staff with the support of human resources (P18).

Suggestions for awareness initiatives on the implementation of workplace information literacy training: participants' suggestions for raising awareness for the implementation of workplace information literacy included communication from the vice chancellor, encouragement from faculty boards, campaigning, the involvement of human resources, word-of-mouth, presentations by experts, initiatives from the library and information services and aligning the value of information literacy training to task completion. Participants' opinions are reflected in the following selection of verbatim quotations:

I think the awareness to make staff aware they can be approached from the angle of the VC [Vice-Chancellor] himself. Maybe he can write a communiqué selling this idea of WIL (workplace information literacy) and then from there, just keep on populating it to people and then we get used to it especially we see it as a necessity for the institution (P1).

Although you are doing this, I think it's high time you address faculty boards on this issue (P3).

Campaigns for those who'll be responsible for that, I think somehow I'm of the opinion that HR [Human Resources] should also come on board because HR need to explain to employees how important it is for them to be effective. I mean we have a performance management system that has to be linked with performance management to say you know in order to be effective and efficient in your domain you need to participate in this it's also part of the buy in that has to be established (P10).

Awareness initiatives you know uh try and communicate, communicate with the people, use whichever form of communication available to a workforce electronic communication, put placards on notice boards (P14).

I think eh in terms of awareness initiatives we can use facilities that we have to try to communicate to staff like notice boards in and around campus [...] so if these initiatives can be part of something that is already in existence, or be advertised in CUT's advertising platforms (P17).

Monitoring of workplace information literacy application: regarding the monitoring of workplace information literacy and compliance to the ideal of workplace information literacy, participants suggested the use of performance management and combining it with performance measurement in the key performance areas's (KPA). Supervisors can then focus on the kind of work people is doing, and the level at which they are working. Although there is strong recognition for the importance of workplace information literacy and for its implementation it seems as if there are also fairly strong opinions on the need for monitoring, supervisor support and involvement, bringing it into the job description and making it compulsory. Support and strong support for these issues ranged between 85/119 (71.4 per cent) support for workplace information literacy as part of job descriptions and 66/120 (55.0 per cent) stating that it must be enforced.

Participants' opinions are reflected in the following selection of verbatim quotations:

I think it will relate to the kind of work that people are doing and there is also incumbent on the supervisor to look at the progress people are making. The supervisor he or her should know what the role what is expected of people at a given level so the supervisor should be in the ideal position to assess that (P7).

One can have it almost as part of your performance plan of staff member where your supervisor monitor. Where supervisors were giving an instruction or projects and you'll be able to see how long it takes this person to complete this now that this person has access can obtain the information well you're not dependent on other people [...] if you are so dependent on other for information you can't get your own thing done and everybody is busy and your information is the last they attend to, so that is one of the ways supervisors can start monitoring how projects are dealt with and are completed when staff are able to utilise the tools themselves (P9).

I think it has to tie up with our performance management, and I think one has to be evaluated against those KPA's (Key Performance Areas) (P12).

Eh I think with regard to monitoring I think this can be incorporated in the performance reviews of staff members 'cause luckily for our institution we are on the verge of implementing this performance management system so I think this can also be part of the key performance area that can be included there and staff members can [...] indicate where he or she has been involved in terms of the information literacy (P17).

Role of the library in promoting workplace information literacy: the sentiments echoed positioned the library as most suitable to play a prominent role in workplace information literacy since the staff has the relevant expertise and thus should spearhead the planning, implementation of workplace information literacy training, marketing and promotion of workplace information literacy. Participants mentioned that the library should train new staff members when they join the university, the library should be seen as a back-up, library staff should be encouraged to take on this role and the library should adhere to best practices by inviting divisions to demonstrate what is available and what different divisions in the library can do. This is also in-line with findings from the questionnaire 62/107 (57.9 per cent). Although the library need to initiate and steer the workplace information literacy programme, it is also evident from findings (including the literature) that this cannot work as a library project/effort alone as the institution must have a support plan as indicated in the quantitative data by 117/121 (96.7 per cent) respondents. It must be an institutional effort involving both top management and staff, and especially supervisors at all levels.

The proposed framework is thus general in nature. On the macro-level it applies to all types of institutions – with the requirement that the institution should have a library.

Participants' opinions are reflected in the following selection of verbatim quotations:

I think a very important role, because that's your information centre, right, yes the library will also play a role in assisting the training and development unit in training our people on how to use what is available but also to be like almost the backup if all else fails the employee must know I've really tried but I could not succeed. I must now be able to contact my library and information centre and there must be people there that is able and willing to assist me, not for the purpose of doing it on my behalf but maybe just guide me through the process [...] Almost like assisting with in-service training (P9).

Look, I think library is all about information, provision of information, whichever type of information you want so should actually be core of information literacy promotion initiatives. From time to time the library has to have programmes that they make people aware of that they should assist in rolling out and divisions should be invited to the library on regular basis to see what interventions are available like what the library normally does with book exhibitions [...] but specifically on workplace information literacy. Library should in this kind of interventions be the core (P14).

Library is the life blood as it is in direct academic support. The library should release trainers, promote workplace information literacy using effective strategies, make the training interesting and enticing for people to come forward (P16).

Roles of committees: participants representing the research committee, library committee, institutional forum and employment equity committee were asked to comment on the role of committees with specific reference to the committee they were representing. They frequently stressed the importance of collaboration between the library and committees. Regarding institutional research activities, information should be available to staff members, i.e. in a booklet format. Faculties can play an influential role and therefore should be advised on this. They should receive feedback reports on workplace initiatives and should place workplace information literacy on their agendas in institutional meetings. It should also feature on the agendas of other council and management level meetings. Participants' opinions are reflected in the following selection of verbatim quotations:

[...] the main thing will be for the committee to also have minutes and then maybe share the minutes with the deans because sometimes when people go for these meetings they don't give feedback to the faculties they come from because when we meet with the deans they do not know what is happening [...] I don't know at CUT when people are appointed or when people are they want to be active in research they don't know how to start or they don't know which criteria to use because should that be a common knowledge that maybe we need a booklet or a guide of what people need to know regarding the information.

The Library committee could make recommendations to faculties and develop a monitoring tool for evaluation. The institutional forum could advise the university's top management on the importance of workplace information literacy[...] the training of workplace information literacy is important so that it can be implemented from the top then cascaded towards the lower levels with ease as it will become an official organisation practice.

The employment equity committee stated that all employees should benefit from workplace information literacy training, and that no one is disadvantaged: "The role of this committee is to improve the role of the poor of the poorest, it can advise the university management directly as workplace information literacy is intended to empower our ordinary people".

5. Workplace information literacy implementation framework

Although the framework is generic in nature – i.e. applying to any type of institution, the results of the qualitative and quantitative data collection demonstrated the need for the library to spearhead workplace information literacy, meaning that workplace information literacy has squarely been placed within the expertise of the relevant operational function which is the library. This will require the library to fully commit, to be *au fait* with what workplace information literacy entails, and to ensure detailed institutional and individual needs analysis among other things. From the findings of both the quantitative and qualitative components it is clear that academic information literacy skills and much more need to be considered, e.g. the emotional experiences and motivation for enhancing workplace information literacy, “Without information decision making will be very difficult and you don’t want to make wrong decisions [...] information is absolutely important in decision making as I said, otherwise it results in high risk decisions [...]” (reflecting anxiousness and concern) (Molopyane, 2014, p. 98). The need to make a difference, e.g. in sharing information and empowering others, and addressing information needs at all levels “the poorest of the poor” was evident. Methods for exploring dormant (i.e. not recognised) and unexpressed information needs thus need to be explored, e.g. through task analysis.

The implications of the proposed framework are thus that it offers organisations a platform of adopting workplace information literacy and for organisational libraries, an urge in rolling out the programme so as to promote productivity to accelerate growth. In addition to the library’s prominent position in the framework in Figure 1, additional detail might be added on the skill sets, attitude and commitment required from the library. (This is, however, a project for the future.)

According to Simpson (2003) a framework consists of “a group of components that work interactively with request from other components or objects to generate a consistent output”. Weiner (2011, p. 298) further explains that a framework organises elements of the same phenomena so that variables interact and combine with one another.

This paper thus concludes by using findings and insights gained from the literature review and empirical data analysis to suggest the components that should feature in a framework for the development and implementation of a workplace information literacy programme. The framework is presented in Figure 1, followed by brief descriptions of each component. Molopyane (2014) explains the framework in more detail. The framework, based on the findings from this study, reflects the need for workplace information literacy in an academic context to be steered by the academic library and its resources, but driven by the institutional buy-in, mission and vision and needs. The findings showed the need to consider all levels of staff and not only task-related information needs but also information needs related to individuals in the institutional contexts such as information on rights in workplace. To address this would require additional capacity building from the library staff.

Following Figure 1, brief explanations of key components are provided.

5.1 Managerial and institutional buy-in

Institutional wide acceptance of workplace information literacy is essential. This includes buy-in, support and commitment from the managerial level including top management, faculty and departmental level down to academic and support services staff. It also includes buy-in from the library and all staff. Buy-in could be secured through a participatory design process, by sharing responsibilities, collaboration and co-design, presentation and institutional branding of the workplace information

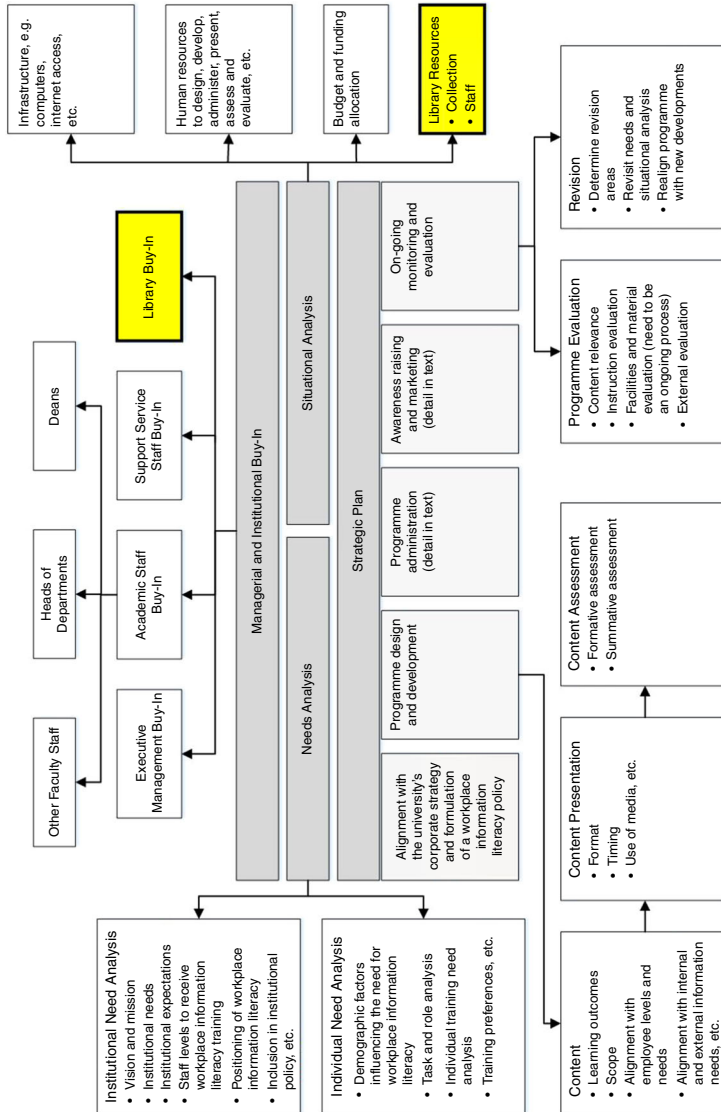


Figure 1. Framework for the development and implementation of workplace information literacy – tailored to the needs of the Central University of Technology, Free State

literacy programme (Schmidt *et al.*, 2004, pp. 6-7; Cheuk, 2008, p. 120). It should be a very explicit point of departure in the planning, design and implementation of a workplace information literacy framework. The buy-in of supervisors on all levels is also very important.

5.2 Needs analysis

A needs analysis is very important in any planning and design especially of training and instructional programmes. Gupta *et al.* (2007, p. 1) explain a needs analysis as “a process of examining and framing people-related problems and performance improvement opportunities”. For workplace information literacy, two types of needs analysis are suggested:

- institutional needs analysis; and
- individual needs analysis.

On an institutional level, the following should be considered:

- alignment with the vision and mission statements of the institution (e.g. university);
- institutional needs;
- institutional expectations, e.g. requirements by the institution in terms of the quality and quantity of research, teaching and learning and service delivery in general. (These needs or requirements then need to be supported by a workplace information literacy programme);
- staff levels to receive workplace information literacy training; and
- position of workplace information literacy and its inclusion into the institutional policy.

On an individual level, the following should be considered:

- job levels, people’s years of experience (in the job and in the institution), qualifications, etc.;
- individual needs for training such as information proficiency skills, knowledge of information resources, etc.;
- training preferences, e.g. in terms of the format (one-one, workshops), mediums (e.g. face-face, online), training intervals (e.g. once a year, twice a year) and duration (e.g. a day, week); and
- task and role analysis.

5.3 Situation analysis

A situation analysis is closely aligned with a needs analysis and sometimes it incorporates the needs analysis. For the design and implementation of a workplace information literacy programme, a situation analysis should consider the availability of infrastructure, human resources for programme design and development, programme administration, funds and budget availability and the library resources that are available to support a programme. The Library resources play a very prominent part and includes the collection of material, and the availability of staff that can drive the initiative, be involved with the information needs assessment (Dorner *et al.*, 2015) and

provide the actual training and assessment. It is not the intention of this paper to explore it in further detail but a number of issues here require further research, e.g. the readiness of the library to take on workplace information literacy.

5.4 *Strategic planning*

On the level of strategic planning various issues need to be considered. This includes:

- alignment with the university's corporate strategy (i.e. how workplace information literacy can be included in the university calendar, the induction programme for new staff, a policy for workplace information literacy, whether the institution should approach it as compulsory or optional, and whether workplace information literacy should be written into job descriptions);
- programme design and development options including decisions on the actual content, presentation, assessment;
- programme administration such as assigning responsibilities regarding the development and design of a workplace information literacy programme, record keeping, e.g. of evaluation, dealing with financial issues and budget allocation, etc.;
- raising awareness for workplace information literacy and marketing the programme, e.g. using faculty board meetings, inviting experts to present on the importance of workplace information literacy, communications from the vice chancellor, word-of-mouth, notice boards and e-mails; and
- on-going monitoring and evaluation, e.g. assessment of workplace information literacy, provision of training certificates, inclusion into job descriptions, performance reviews, monitoring by supervisors and inclusion of workplace information literacy as a KPA, keeping attendance records and writing annual reviews on the overall evaluation of the programme, as well as revision and realignment with new developments relevant to workplace information literacy and the institution.

The framework is in-line with findings from the literature review, quantitative data collected and the sentiments and opinions gathered from the qualitative data. The framework can be adopted by the CUT, as well as other academic institutions. It also holds value for public and corporate institutions since it is a generic framework with the need for a library to initiate and steer the implementation as a key requirement.

6. Conclusion

Workplace information literacy is drawing more interest, and worldwide, increasing pressure for productivity and keeping a competitive edge are noted. Staff who are not only information literate, but who can meet with the informational requirements and practices of workplace can support organisations in all contexts (public, private and academic) to meet with these demands. This study led to a framework that offers a good point of departure for the specific institution (CUT, Free State, South Africa), as well as other institutions in academic and other sectors to pursue workplace information literacy programmes in a formal manner. Such programmes should meet with institutional needs, and should support institutional strategies. Research involving more case studies in the same context and countries – before expanding to other countries and other contexts can deepen understanding of the needs for workplace information literacy, in addition to the actual implementation of a workplace information literacy programme according to the framework, which is then followed by an assessment of the framework.

Note

1. *Ja* is the Afrikaans word for yes, and is often found in some local English conversations.

References

- Allan, B. (2007), *Blended Learning: Tools for Teaching and Training*, Facet, Trowbridge.
- Al-Daihani, S.M. and Rehman, S. (2007), "A study of the information literacy capabilities of the Kuwaiti police officers", *The Electronic Library*, Vol. 25 No. 5, pp. 613-626.
- ANU Human Resource Department (2004), "Information and information technology literacy: a guide for supervisors & selection committee members", The Australian National University, Canberra, available at: http://info.anu.edu.au/hr/Training_and_Development/Information_Literacy/index.asp (accessed 7 February 2015).
- Barnard, A., Nash, R. and O'Brien, M. (2005), "Information literacy: developing lifelong skills through nursing education", *Journal of Nursing Education*, Vol. 44 No. 11, pp. 505-510.
- Bruce, C.S. (1994), "Information literacy blue print", Griffith University, Queensland, available at: www.griffith.edu.au/ins/training/computing/web/blueprint/content_blueprint.html (accessed 13 September 2006).
- Bruce, C.S. (1999), "Workplace experiences of information literacy", *International Journal of Information Management*, Vol. 19 No. 1, pp. 33-47.
- Case, D.O. (2012), *Looking for Information: A Survey of Research on Information Seeking, Needs, and Behaviour*, 3rd ed., Emerald, Bingley.
- Central University of Technology, Free State (2007), available at: www.cut.ac.za
- Cheuk, B. (1998), "An information seeking and using process model in the workplace: a constructivist approach", *Asian Libraries*, Vol. 7 No. 12, pp. 375-390.
- Cheuk, B. (2008), "Delivering business value through information literacy in the workplace", *Libri*, Vol. 58 No. 3, pp. 137-143.
- Chou, T., Chen, J. and Pu, C. (2011), "Exploring the collective actions of the public servants in e-government development", *Decisions Support Systems*, Vol. 45 No. 2, pp. 251-265.
- Conroy, H. (2006), "JISC i-Skills programme for university administration", final report, New Castle University: JISC, Netskills, available at: www.netskills.ac.uk/content/projects/iskills-admin/iskillsfinalreport.pdf (accessed 12 December 2007).
- Cooney, M. and Hiris, L. (2003), "Integrating information literacy and its assessment into a graduate business course: a collaborative framework", *Research Strategies*, Vol. 19 Nos 3/4, pp. 213-232.
- Creswell, J.W. and Plano Clark, V.L. (2011), *Designing and Conducting Mixed Methods Research*, 2nd ed., SAGE, Los Angeles, CA.
- Donnelly, A. and Craddock, C. (2002), "Information literacy at Unilever R&D", Chartered Institute of Library and Information Professionals", available at: www.cilip.org.uk/publications/updatesmagazine/archive/archive2002/december/update0212c.htm (accessed 31 March 2009).
- Dorner, D.G., Gorman, G.E. and Calvert, P.J. (2015), *Information Needs Analysis: Principles and Practice In Information Organizations*, Facet Publishing, London.
- Fourie, I. (2008), "Practical suggestions for information literacy programmes for health professionals – learning from studies in human information behaviour (HIB)", *Mousaion*, Vol. 26 No. 2, pp. 132-152.
- Fourie, I. and Krauss, K.K. (2011), "Information literacy training of teachers in rural South Africa", *Journal of Systems and Information Technology*, Vol. 13 No. 3, pp. 303-321.
- Gorman, G.E. and Clayton, P. (2005), *Qualitative Research for the Information Professional: A Practical Handbook*, Facet Publishing, London.

- Grassian, E.S. and Kaplowitz, J.R. (2001), *Information Instruction: Theory and Training*, Neal-Schuman, New York, NY.
- Gupta, K., Sleezer, M. and Russ-Eft, D.F. (2007), *A Practical Guide to Needs Assessment*, 2nd ed., Wiley, San Francisco, CA.
- Gurke, S. (2012), "Information literacy in the workplace", *R&D Magazine*, Vol. 54 No. 7 p. 22.
- Gwyer, R., Stubbings, R. and Walton, G. (2012), *The Road to Information Literacy: Librarians as Facilitators of Learning*, IFLA, The Hague.
- Harris, C., Mackenzie, A., Makin, L. and Young, G. (2004), "The Big Blue Connect", Manchester Metropolitan University, Manchester, available at: www.library.mmu.ac.uk/bbconnect/ (accessed 28 May 2007).
- Hart, D., Diercks-O'Brien, G. and Powell, A. (2009), "Exploring stakeholder engagement in impact evaluation planning in educational development work", *Evaluation*, Vol. 15 No. 3, pp. 285-306.
- Hepworth, M. and Smith, M. (2008), "Workplace information literacy for administrative staff in higher education", *Australian Library Journal*, Vol. 57 No. 3, pp. 212-236.
- Hepworth, M. and Walton, G. (2009), *Teaching Information Literacy for Inquiry-Based Learning*, Chandos, Oxford.
- Hicks, A. (2014), "Bilingual workplaces: integrating cultural approaches to information literacy into foreign language educational practices", *Journal of Information Literacy*, Vol. 8 No. 1, pp. 21-41.
- Inskip, C. (2014), "Information literacy is for life, not just for a good degree: a literature review", Chattered Institute of Library and Information Professionals, London, available at: www.cilip.org.uk/sites/default/files/documents/IL%20in%20the%20workplace%20literature%20review%20Dr%20C%20Inskip%20June%202014.%20doc.pdf (accessed 22 January 2015).
- Kirton, J. and Barham, L. (2005), "Information literacy in the workplace", *The Australian Library Journal*, Vol. 54 No. 4, pp. 365-376.
- Klusek, L. and Bronstein, J. (2006), "Information literacy skills for business careers: matching skills to the workplace", *Journal of Business & Finance Librarianship*, Vol. 11 No. 4, pp. 1-19.
- Korobili, S., Malliari, A., Daniilidou, E. and Christodoulou, G. (2011), "A paradigm of information literacy for Greek high school teachers", *Journal of Librarianship and Information Science*, Vol. 43 No. 2, pp. 78-87.
- Leedy, P.D. and Ormrod, J.E. (2014), *Practical Research: Planning and Design*, 10th ed., Pearson Education Limited, Edinburgh Gate.
- Lloyd, A. (2005), "No man (or woman) is an island: information literacy, affordance and communities of practice", *The Australian Library Journal*, Vol. 54 No. 3, pp. 230-237.
- Lloyd, A. (2011), "Trapped between a rock and a hard place: what counts as information literacy in the workplace and how it is conceptualized", *Library Trends*, Vol. 60 No. 2, pp. 277-296.
- Macoustra, J. (2003), "Information literacy in a corporate environment", available at: www.freeprint.com/issues/060303.htm (accessed 18 June 2007).
- Madu, E.C. and Dike, V.W. (2012), "An assessment of the relationship between information literacy competencies and academic productivity amongst staff in Nigerian universities in the north geographical zone", *Journal of Emerging Trends in Computing and Information Science*, Vol. 3 No. 2, pp. 179-185.
- Malu, R. and Wu, Y.D. (2004), "Building context-based library instruction", *Journal of Education for Business*, Vol. 79 No. 6, pp. 323-327.

- Merchant, L. and Hepworth, M. (2002), "Information literacy of teachers and pupils in secondary schools", *Journal of Librarianship and Information Science*, Vol. 34 No. 2, pp. 81-89.
- Mills, A.J., Eurepos, G. and Wiebe, E. (2010), *Encyclopedia of Case Study Research*, SAGE, Thousand Oaks, CA.
- Mokhtar, I.A., Majid, S., Foo, S., Zhang, X., Theng, Y., Chang, Y. and Luyt, B. (2012), "Evidence-based practice and related information literacy skills of nurses in Singapore: an exploratory case study", *Health Informatics Journal*, Vol. 18 No. 1, pp. 12-25.
- Molopyane, J.M. (2014), "A framework to promote workplace information literacy in academic settings. Central University of Technology, Free State as a case study", masters dissertation, University of Pretoria, Pretoria, available at: <http://hdl.handle.net/2263/45946>
- Noor, K.B.M. (2008), "Case study: a strategic research methodology", *American Journal of Applied Sciences*, Vol. 5 No. 11, pp. 1602-1604.
- Oman, J.N. (2001), "Information literacy in the workplace", *Information Outlook*, Vol. 5 No. 6, pp. 32-43, available at: www.findarticles.com/p/articles/mi_m0FWE/is_6_5/ai_75958765/print (accessed 14 September 2006).
- Onwuegbuzie, A.J. and Leech, N.L. (2007), "A call for qualitative power analysis", *Quality & Quantity*, Vol. 41 No. 1, pp. 105-121.
- Ovaska, T. (2012), "Making evidence-based decisions when organising information retrieval training for nurses and head nurses", *Health Information and Libraries Journal*, Vol. 29 No. 3, pp. 252-256.
- Partridge, H., Edwards, S. and Thorpe, C. (2010), "Evidence-based practice: Information professionals' experience of information literacy in the workplace", in Partridge, H., Edwards, S., Clare, T., Lloyd, A. and Taljo, S. (Eds), *Practicing Information Literacy: Bringing Theories of Learning, Practice and Information Literacy Together*, Centre for Information Studies, Charles Sturt University, Wagga Wagga, pp. 273-298, available at: http://eprints.qut.edu.au/32798/1/PIL_21_Ch13_201004.pdf (accessed 30 October 2014).
- Pickard, A.J. (2013), *Research Methods in Information*, 2nd ed., Facet Publishing, London.
- Rosenberg, V. (2002), "Information literacy and small business", White Paper prepared for UNESCO, the US National Commission on Libraries and Information Science, and the National Forum on Information Literacy, for use at the Information Literacy Meeting of Experts, Prague, available at: www.nclis.gov/libinter/infolitconf&meet/papers/rosenberg-fullpaper.pdf (accessed 19 July 2007).
- Sayers, R. (2006), *Principles of Awareness-Raising for Information Literacy: A Case Study*, UNESCO Bangkok, Bangkok, available at: <http://unesdoc.unesco.org/images/0014/001476/147637e.pdf> (accessed 18 November 2008).
- Schmidt, J., Lyons, M. and Rutherford, J. (2004), "Motivate, accommodate, facilitate: human resource management initiatives adopted by the university of Queensland Cybrary", *ATEM Queensland Branch Conference: ATEM, Brisbane, March*, pp. 1-11, available at: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.156.1477&rep=rep1&type=pdf> (accessed 6 September 2010).
- Secker, J. (2011), "A new curriculum for information literacy: transitional, transferable, transformational", Expert Consultation report, Arcadia Project, Cambridge University Library, available at: http://ccfil.pbworks.com/f/Expert_report_final.pdf (accessed 27 July 2012).
- Simpson, W. (2003), "What is a framework: web services? Why do you need them?", Idaho National Engineering and Environmental Laboratory, Idaho Falls, available at: www-conf.slac.stanford.edu/interlab03/talks/simpson.ppt (accessed 17 July 2012).
- Sokoloff, J. (2012), "Information literacy in the workplace: employer expectations", *Journal of Business and Finance Librarianship*, Vol. 17 No. 1, pp. 1-17.

- Swords, P. and O'Sullivan, C. (2004), "Experiences of professionals promoting information literacy in a corporate environment", *Life-long Learning Conference, Central Queensland University Press, Rockhampton, Queensland, 13-16 June*, pp. 335-340, available at: <http://acquire.cqu.edu.au:8080/vital/access/manager/Repository/cqu:1478> (accessed 3 June 2009).
- Tanner, A., Pierce, S. and Pravikoff, D. (2004), "Readiness for evidence-based-practice: information literacy needs of nurses in the United States", *Studies in Health Technology and Informatics*, Vol. 107 No. Pt2, pp. 936-940, available at: <http://cmbi.bjmu.edu.cn/news/report/2004/medinfo2004/pdf/files/papers/4770Tanner.pdf> (accessed 18 June 2008).
- Truscott, D.M., Swars, S., Smith, S., Thornton-Reid, F., XZhao, Y., Dooley, C., Williams, B., Hart, L. and Matthews, M. (2010), "A cross-disciplinary examination of the prevalence of mixed methods in educational research: 1995-2005", *International Journal of Social Research Methodology*, Vol. 13 No. 4, pp. 317-328.
- Venkatesh, V., Brown, S.A. and Bala, H. (2013), "Bridging the qualitative-quantitative divide: guidelines for conducting mixed method research in information systems", *MIS Quarterly*, Vol. 37 No. 1, pp. 21-54.
- Vicki, F. (2003), "Integrating information literacy into the business course", *Reference Service Review*, Vol. 31 No. 1, pp. 81-95.
- Wahoush, O. and Banfield, L. (2014), "Information literacy during entry to practice: information-seeking behaviors in student nurses and recent nurse graduates", *Nurse Education Today*, Vol. 34 No. 2, pp. 208-213.
- Walton, G. and Pope, A. (Eds) (2006), *Information Literacy: Recognising the Need*. Staffordshire University, Stoke-on-Trent, 17 May, Chandos, Oxford, pp. 47-58, available at: <http://dis.shef.ac.uk/sheila/staffs-webber-johnston.pdf> (accessed 20 September 2012).
- Weiner, S. (2011), "How information literacy becomes policy: an analysis using the multiple streams framework", *Library Trends*, Vol. 60 No. 2, pp. 297-311.
- Xenitidou, M. and Gilbert, N. (2009), *Innovations in Social Science Research Methods: An International Perspective*, University of Surrey, Guildford, available at: <http://eprints.ncrm.ac.uk/804> (accessed 19 October 2012).
- Yang, F. (2012), "Exploring the information literacy of professionals in safety management", *Safety Science*, Vol. 50 No. 2, pp. 294-299.

Further reading

- Leech, N.L. and Onwuegbuzie, A.J. (2009), "A typology of mixed methods research designs", *Quality & Quantity*, Vol. 43 No. 2, pp. 265-275.
- Leedy, P.D. and Ormrod, J.E. (2005), *Practical Research: Planning and Design*, 8th ed., Pearson/Merrill Prentice Hall, Upper Saddle River, NJ.

Corresponding author

Jeannet Molopyane can be contacted at: jmolopya@cut.ac.za

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgroupublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com