ARTICLE

FACILITATING THE CONTINUING EDUCATION NEEDS OF PROFESSIONAL CATALOGUERS IN SOUTH AFRICA: A FRAMEWORK FOR SELF-DIRECTED LEARNING

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ABSTRACT

Global changes in the cataloguing environment, training needs of cataloguers, the professional profile of cataloguers, and concerns about the future of the cataloguing profession have been widely noted over many years. Document types are published in a variety of formats, and are accordingly recorded in metadata formats other than conventional MARC. Expanded cataloguing theory to include the digital environment has required cataloguers to adjust to new job content. This necessitated training of qualified newcomers and non-qualified individuals in cataloguing practice. Life-long learning and mastering new skills are inescapable. These circumstances also apply in South Africa. This article reports on a mixed methods study about the continuing education needs and learning patterns of contemporary cataloguers in South Africa. The purpose of the study was to meet continuing cataloguing education needs by designing a self-directed framework for this purpose. Data were collected between April and May 2015 by means of an electronic semi-structured self-administered questionnaire and focus group interviews. Members listed on two professional, electronic distribution lists – LIASA-IGBIS and SabiCat – were invited to participate. Fifty-nine useful questionnaires were returned, and three focus group interviews were conducted with 17 participants overall. A self-directed learning framework was designed based on findings from the literature review and empirical study. The framework was influenced by models on professional practice, the spheres where continuing education originate, the work

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of Knowles (1975) and Brockett and Hiemstra (2012) on self-directed learning theory, and the personality trait of self-directedness as understood and constructed by Oddi (1984), another self-directed learning theorist.

Keywords: cataloguers; continuing education; descriptive cataloguing; framework; self-directed learning; South Africa

INTRODUCTION

Modern professional cataloguers' practice is influenced by rapid changes, typical of the Information Era (Dmytrenko 1992, 20). The demand for continuing education is evident in the personal, organisational and external spheres (Ramaiah and Moorthy 2002, 25). Technological changes impact on organisational budgets and structures, often resulting in re-organisation programmes, staff being laid off or relocated to other departments, and the remainder required to familiarise themselves with new job content (Cerbo 2011, 26; Mooney Gonzales 2014, 2-3, 5).

The unlearning/relearning cycle has become part of the daily activities, since the number and type of electronic resources are expanding and the conventional MAchine Readable Cataloging (MARC) format is no longer sufficient to describe all digital document types (Boydston and Leysen 2014, 229; Moehrle 2012, 81, 85). The new standard resource description code – Resource Description and Access (RDA) – has been aligned with the digital environment and its theoretical base has been developed to provide better access to electronic resources without neglecting traditional document types (Anhalt and Stewart 2012, 34; Coetzee 1991, 282, 284; Tillett 2011, 266-7; Welsh and Batley 2012, 83). Flattened organisational structures present professional cataloguers with managerial and training tasks – not prepared for during their formal education – and has opened up specialisation opportunities (Hall-Ellis 2015, 102-3, 131; Reinbold 2013, 244; Sridhar 1999, 7, 13-4). Cases have been noted of undergraduate education covering the theory of cataloguing, but without candidates gaining sufficient practical experience (DAC 2010, 91; Dulock 2011, 65; Maphopha 2000, 49; Mugridge 2008, 90-1). All these problems call for the provision of continuing education. Regardless of employers or professional bodies being setup for support, individual practitioners remain responsible for their own learning (Meintjes and Nieman-Struweg as quoted in Hart 2012, 61; Van Rensburg, Basson and Carrim 2011, 10–1, 14; Wilensky 1964, 138, 146, 156). In this regard, self-directed learning framed within adult learning theory, may be beneficial to the practitioner (Harvey, Rothman and Frecker 2006, 197; Merriam, Cafarella and Baumgartner 2012, 79–81).

This article provides a background to the study, a review of the related literature, the research design, selected findings from the empirical component, and a suggested framework for the self-directed learning of contemporary cataloguers. Changes in the professional cataloguing environment have led to the conventional term of "cataloguer" (sometimes referred to as "documentalist") increasingly being used interchangeably

with "metadata specialist" (Mooney Gonzales 2014, 2, 5). This is aligned with the professionalisation model, which suggests that an occupation develops its professional roots also by introducing new terminology (Wilensky 1964, 144).

BACKGROUND

Internationally, scholarship on continuing education has reported on employers' needs, activities and requirements for cataloguers (Hall-Ellis 2015, 31; Hider 2006, 37 and 2014, 193, 200; Lussky 2008, 118). Frameworks for aspects related to continuing education have been developed (Bines and Watson 1992, 12-24; Fisher, Hallam and Partridge 2005, 13, 27; Greer, Grover and Fowler 2007, 56-61, 158-9; Howarth 2000, 34; IFLA 2014, 1-2; Kennedy 2005, 248; Maack 1997, 284; Owen and Watson 2015, 4, 80), while reference to adult learning theories is also applicable (Grow 1991, 126; Hallam 2006, 167; Kietzke Young 2012, 188–9; Knowles 1975, 18; Kolb 1984, 38; Merriam et al. 2012, 84). Some studies on continuing education in the information studies field have been done in South Africa, with none referring to self-directed learning in the continuing cataloguing education situation: Vink (1979, 150) and Maphopha (2000, 49) conclude that continuing education takes place in a somewhat unstructured way, while Terblanche (1989, 69–70) identifies five categories of people when it comes to the ease with which they adapt to change. A noteworthy South African study aligned with the Chartered Institute of Library and Information Professionals (CILIP) model of continuing education is reported by Sewdass and Theron (2004, 103).

The South African Department of Arts and Culture (DAC) was concerned about the shortage of information specialists in the industry and the high number of non-qualified individuals appointed in professional positions. They subsequently investigated the situation and included recommendations on continuing education. In their report published in 2010, "the need for CPD in the LIS" clearly showed, and it concluded that the "enforcement of CPD would be an advanced step in the restoration of the professional identity of the librarian" (DAC 2010, 183). The study on which this article reports was conducted in answer to the DAC report. The study aimed to look into the demand for structured continuing cataloguing education in South Africa. As such, it sought to ascertain what knowledge was required of professional cataloguers, their continuing education needs and their learning patterns. The study was guided by the following research question:

> What would a framework that meets the continuing education needs of professional cataloguers in South Africa look like?

The following sub-questions were set to answer the research question:

- Which knowledge profile will support the cataloguer to perform effective cataloguing within various organisational environments?

- What is the nature of self-directed learning, and how can it facilitate the cataloguer's training needs in the South African continuing education environment?
- How can the readiness for self-directed learning be recognised in cataloguing practice?
- How would a structured, continuing education framework emerge to promote optimal learning for professional cataloguers?

The purpose of the study was to guide the continuing education needs of cataloguers by designing a self-directed learning framework. This necessitated knowledge about contemporary cataloguers' knowledge profile, training needs and learning patterns. The relevance of such a framework lies in the fact that it is structured, in this case according to the self-directed learning theory of Brockett and Hiemstra (2012, 158), and ready for use on a personal level. It can possibly fit into larger personnel development systems, such as employers' performance management systems, or registration for a professional body. Concerning the step-by-step self-instructional process through which the learning process occurs, the framework is aligned with CILIP's professional development plan, which Sewdass and Theron (2004, 111) recommend for implementation in South Africa.

CONTINUING EDUCATION FOR CATALOGUERS

Continuing education does not occur in a vacuum, but is anchored in theory that relates it to the profession at which it is aimed. Each profession has specific education and training characteristics with regard to professionalism (Bekker 1994, 116; Goode 1961, 308, 312; Maack 1997, 291–2; Van Rensburg et al. 2011, 10–1, 14; Wiegan 1998, 25-7). Cataloguers deal specifically with recorded information (Bates 2006, 1035).

Maack (1997, 284) is convinced that shared professional knowledge between practitioner and client plays an enabling role in the life of clients. An information transfer framework was investigated for its four knowledge building components – its theoretical basis, techniques and technologies, professional organisation (referring to the professional association, as well as management of information agencies), and users/clients of information products and services (Greer et al. 2007, 59-61). Fisher et al. (2005, 17-19) note professional and generic knowledge content clusters, while Bines and Watson (1992, 17-22) list academic institutions, employers and professional bodies that are present in the practitioner's learning milieu. Simultaneously, this milieu indicates the spheres (individual, institutional, professional) where practitioners' continuing education needs develop (Ramaiah and Moorthy 2002, 25).

Surveys on continuing education needs of cataloguers — a metadata specialist sub-group in the information organisation field (Hider 2006, 37) — refer to changes in the description and access of information resources due to the explosion of digital document types as information carriers. Now, cataloguers have to expand their knowledge about non-MARC metadata formats and the information technological platform where these

documents reside, still perform metadata quality management functions, and master a new coding standard which provides recording instructions ranging from print to electronic resources. Park, Tosaka, Maszaros and Lu (2010, 158) view "metadata as the principle building block in facilitating effective resource description, access and sharing" and furthermore mention that the "pace of change in the metadata environment creates an increased demand for continuing education programs".

Interestingly, newcomers indicated a need for more, better and hands-on cataloguing courses during their education (Dulock 2011, 65; Mugridge 2008, 90-1; Swan Hill 2002, 244, 248). They "regret not having taken more cataloguing courses while at library school" which is enhanced by the statement that they "didn't know they will become cataloguers". The need to evaluate the impact of continuing education during annual performance appraisals and to support practitioners in compiling their personal development plans for professional registration are specifically related to this study (Cossham and Fields 2006, 241; Hall-Ellis 2015, 131; Lussky 2008, 118). Practitioners do not deal only with organising information, but often act as learning facilitators for which they do not have formal training backgrounds, now (Dalrymple 2002, 272; Reinbold 2013, 244).

Other training aspects observed include employer support for continuing education, barriers to continuing education, learning strategies for and delivery methods of continuing education, and employer requirements for complex knowledge and competencies regarding content, technology and people skills (Bothman 2009, 224, 229-231; Boydston and Leysen, 2014, 229; Hider 2006, 43-4, 52 and 2014, 193, 200; Khurshid 2006, 461, 464, 467-8).

In his classic approach to continuing education, Houle (1980, 4, 106) refers to updating, preparing and refreshing strategies through which professionals keep themselves updated in their fields. Kennedy (2005, 248) in turn clusters known continuing education approaches into transmitting, transferring and transforming approaches to support autonomous conduct within a profession. Overlaps between in-service training programmes (Döckel as quoted in Coetzee 1996, 114; Hudson 1987, 69; Maphopha 2000, 49; Spivey 1987, 1-2; Terblanche 1989, 70-3) and Kennedy's transmitting cluster are clear. The "American Serials Cooperative Cataloguing Training Program" (Howarth 2000, 34) is a standards-based, decentralised framework that may fall within Kennedy's transferring cluster. An example of another transferring approach — mentorship (Bello and Mansor, 2011, 163-4; Ngoepe and Jiyane 2015, 70) — is CILIP's "Framework for Qualifications" (Chapman 2006, 264-6). In this registration scheme professionals have to find mentors working in different sectors, enabling mentees "to see their work from a different perspective and to gain a wider view of the profession through discussion" (Owen and Watson 2015, 21). The portfolio is a significant feature and is based on the learning contract, a well-known self-directed learning strategy that covers the following aspects (Jarvis 2004, 247; Knowles 1975, 18; Sewdass and Theron 2004, 111): analysing

the training need, defining learning goals to achieve, developing a plan to learn the new content, implementing the plan, and evaluating its outcomes.

While studies on self-directed learning in the field also focus on the undergraduate level, DeVinney and Tegler (1983, 226-7) found that on-the-job training and self-instruction were important learning strategies for entry-level information specialists. A study by Varlejs (1999, 177, 182) suggested an investigation into self-directed learning as an element in workplace performance measurement systems. Hallam (2006, 167) specifically sees self-directed learning as the foundation for the continuous learning of future cataloguers. Recently, Kietzke Young (2012, 188-9) looked into Adult Learning Theory to master the new descriptive recording code, RDA. She found that cataloguers are often introverts and that learning strategies should benefit this personality type.

Continuing education is impossible without learning. Professionals are responsible adults (Knowles, Holton and Swanson 2005, 185), thus self-directed learning frameworks could facilitate the updating of their professional knowledge (Merriam et al. 2012, 167). Knowles (1975, 18) defines self-directed learning as follows:

> "self-directed learning" describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes.

Merriam, Cafarella and Baumgartner (2012, 79, 105, 111) look holistically at the adult learner in their Adult Learning Theory which consists of self-directed learning, andragogy, transformative and situated learning. Apart from the self-instruction process approach to self-directed learning, Grow (1991, 143) proposes his "Staged Self-Directed Learning" (SSDL) Model, where learners develop from dependence on the facilitator, to autonomous learners in control of their own learning. Aligned with theorists such as Knowles (2005, 39-40) and Mezirow (1997, 11), Merriam et al. (2012, 137) agree that experience is an important learning ingredient and refer to Kolb's Experiential Learning Theory (1984, 38, 42). Brockett and Hiemstra (2012, 158-9) take another total look at self-directed learning, where "the learner is highly self-directed, the teaching-learning process is set up in a way that encourages learners to take control of their own learning, and the socio-political context and the learning environment support the climate for self-directed learning". This study broadly organises cataloguers' continuing education within Brockett and Hiemstra's "Person-Process-Context (PPC)" model of self-directed learning.

The sustainability of continuing education activities that aim for professional utilisation of domain knowledge in practice, is inseparable from a professional work attitude. In her typology of the professions, Maack (1997, 284) categorises information practice as an empowering profession, indicating that professionals rather share suitable knowledge with clients to enable them greater control of their lives and thus use their knowledge to create information products and services for clients.

RESEARCH METHODOLOGY AND DESIGN

This exploratory, non-experimental, pragmatic study examined the difficulty in facilitating cataloguers' continuing education needs (Duram 2010, 1074-5; Lohmeier 2010, 911; Staller 2010, 1161). Continuing education is a characteristic of professions, and practitioners contribute to the survival of their professions when they take control of their own professional learning by for instance reading (Jarvis 1995, 48). A framework for self-directed learning was considered a possible solution. However, the question was what such a framework would look like to meet cataloguers' ongoing training needs.

The study was aligned with the survey (Fink 2013, 10) as research design to profile professional South African cataloguers in their continuing education situation. This provided an avenue to establish Brockett and Hiemstra's three fundamental concepts of self-directed learning: person, process, and context. The collected data created a holistic picture of the continuing education situation of professional South African cataloguers, with reference to some general and specific conditions. The study's rationale is represented by the figure below (Figure 1).

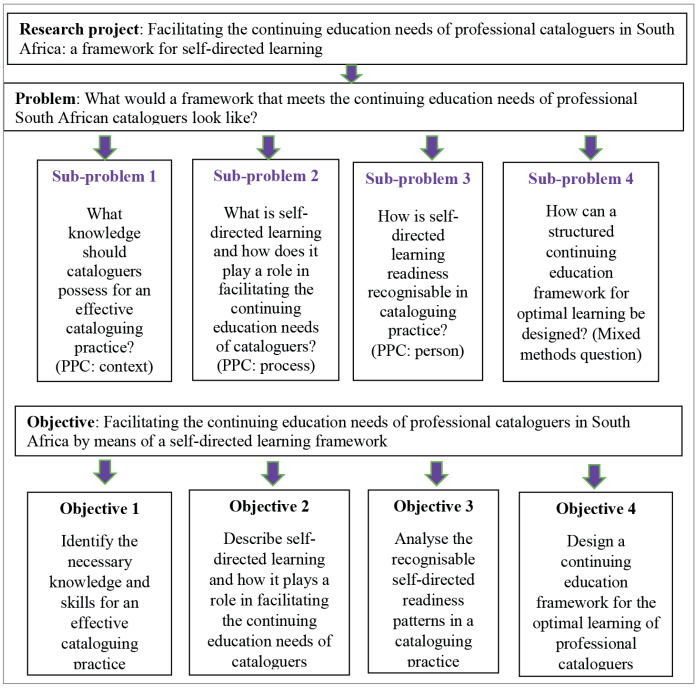

Figure 1: Research problem and purpose

Open and closed questions as an element of survey research provided the opportunity to apply mixed-methods data collection techniques. Described by Creswell (2014, 244), mixed-methods research is "an approach to inquiry that combines both qualitative and quantitative forms of research. It involves philosophical assumptions, the use

of qualitative and quantitative approaches, and the mixing or integrating of both approaches in a study". An electronic, self-administered semi-structured questionnaire was distributed utilising the Qualtrics package. Seventeen questions – dichotomous, normative, and interval questions collapsed into normative questions – were covered in three sections: demographic information that also revealed respondents' situated learning conditions, their information organisation learning needs, and the patterns of their self-directed learning. Two electronic distribution lists for cataloguers were used – LIASA-IGBIS and SabiCat – with the focus on the first since it is the official list to which LIASA-IGBIS members subscribe. At the time, LIASA-IGBIS membership numbered between 280 and 397 members. One hundred and thirteen attempts were made to complete the questionnaire, which was distributed during April 2015. Eventually 59 fully completed questionnaires were analysed. This equalled a response rate of between 15 and 21 per cent, which exceeds the minimum response rate of 10 per cent of the sample frame for a convenient sample (Sue and Ritter 2007, 34). The response frame also fell within Sue and Ritter's bounds for a convenience sample: between 30 and 500 potential participants.

A purposive sample provided access to 17 participants for three focus group discussions, executed during May 2015: one conventional and two virtual interviews (e-mail). The conventional group was situated in Pretoria while the virtual interviews took place in two larger areas identified as "Gauteng" and "Countrywide". The focus groups discussed four open-ended questions that addressed organisations and their support for continuing education, kinds of continuing education opportunities, cataloguers as facilitators of learning and the evaluation of self-directed learning in practice. Participants introduced themselves beforehand and were informed on the nature of focus group interviews as a means of collecting research data. Typical of focus group interviews discussions were lively and dynamic, as expressed by one participant: "[T]hat was hectic but wonderful!!!"

Triangulation was employed during the convergent data-analysis phase. This entails a comparison of literature, quantitative and qualitative responses as a typical mixed-method strategy to interpret data, conventionally collected and dealt with for both the quantitative and qualitative strands (Creswell 2014, 201, 223). This strategy also strengthens the validity of the findings, which is a particularly weak point in survey research. The research process is summarised in Table 1.

Table 1: Summary of the empirical research component

Approach: followed a mixed-methods approach, which resulted in a profile of participants via quantitative data, while qualitative data depicted participants' situation and needs

Research method: applied the survey as research design
Participants: a convenience sample was applied, when professional cataloguers were invited via the IGBIS and SabiCat electronic cataloguing distribution lists and data from 59 participants who completed their electronic questionnaires were analysed. Focus group participants were initially involved on a voluntary basis, but numbers were expanded via a purposive sample to 17 participants who took part in three focus groups. Non-probability sampling designs were thus employed to gather participants for this descriptive research.
Data collection techniques: two techniques were employed namely a structured, electronic questionnaire to collect quantitative, measurable data inclusive of a learning style instrument, while semi-structured qualitative focus group interviews were used to reflect subjective experiences of participants. Data fulfilled confirmatory and completive functions.
Reliability and validity: reliability and validity were confirmed by triangulation, since data collected via the literature review, questionnaire and focus group interviews were compared
Confidentiality: anonymous responses to the electronic questionnaire were transported via IP addresses and directly submitted to a collective data pool; contributions from focus group interviewees were coded to ensure participant anonymity.
Ethical clearance: EBIT Ethical Committee (University of Pretoria) provided written confirmation for data collection by means of document EBIT/69/2014
Data collection timeframe: questionnaire – 7-24/4/2015; focus group interviews – 15, 26, 28/5/2015

FINDINGS

The quantitative data from the English questionnaire provided a profile of some cataloguers that may be representative of the South African cataloguer. Most practitioners obtained their academic qualifications between 1987 and 2002. They are mainly employed by information centres/libraries as professional cataloguers in information organisation departments or as managers of such departments. Practitioners perform duties related to four knowledge areas: recording various document types as carriers of recorded knowledge; utilising techniques and technologies to capture documents for document/information retrieval; managerial tasks, ranging from the departmental to the workstation level; and compiling a user-friendly information product – an information system nowadays referred to as OPAC 2.0. Many practitioners are involved in training to gain knowledge or skills in formal or informal ways.

The recent implementation of RDA, the new descriptive code to record documents, amplified training needs related to descriptive standards, new document types where information is transferred, and mastery of updated or emerging electronic systems (Table 2). On the interpersonal level, developmental areas were indicated as leadership and assertiveness, professional growth and teamwork. Respondents indicated that when practitioners become aware of knowledge gaps, those gaps are addressed in either one

of three ways: setting up learning goals (31%), finding out more about the topic (50%), or collaborating with others on the matter (20%). Training needs are aligned with positional duties, such as professional subject analysis (77%), descriptive work (76%), and quality control (65%); specialisation activities, such as authority work (53%), system administration (51%), or training (59%); or managerial tasks (61%). Up to 70% of professionals are also involved in committee work.

Table 2: Continuing education needs

Training needs (N = 59)	Number: Yes	%	Number: No	%	Total	%
Professional						
Standards to record information sources	47	79.66	12	20.33	59	100
Recording of information source formats	43	72.88	16	27.11	59	100
Information systems for storage/ retrieval	41	69.49	18	30.50	59	100
Information organisation function	35	59.32	24	40.67	59	100
Generic						
Interpersonal skills/properties	29	49.15	30	50.85	59	100
Workstation infrastructure	26	44.07	33	55.93	59	100

Apart from their own learning responsibility, practitioners are aware of the role that various continuing education bodies, such as professional bodies, academic institutions and employers, play in professional learning. Regarding the "yourself" option (Table 3), cataloguers indicated that they learn on their own in 100% of cases, that 98% are in possession of a qualification (degree/diploma/certificate), and that 60% perform professional tasks, while 40% are involved in management.

Table 3: Continuing education role players in the information organisation field

Institutions (N = 59)	Unimportant	Somewhat important	Important	Very important	Total
Academic bodies	0 (0%)	5 (8.50%)	10 (16.94%)	44 (74.60%)	59 (100%)
Employers	2 (3.40%)	6 (10.20%)	22 (37.30%)	29 (49.15%)	59 (100%)
Non-academic bodies	6 (10.20%)	17 (28.81%)	23 (39.00%)	13 (22.03%)	59 (100%)
Professional association	0 (0%)	3 (5.10%)	20 (33.90%)	36 (61.02%)	59 (100%)
Yourself	1 (1.70%)	2 (3.40%)	17 (29.81%)	39 (66.10%)	59 (100%)

Self-directed learning patterns indicate an awareness of a systematic approach to a learning task in terms of Knowles' five self-instructional steps (Table 4). Grow's (1991) SSDL Model is another way to evaluate mastery of content: first the learner observes the relevant content matter, then he/she becomes interactively involved with peers about the content matter, becomes interested in understanding of theoretical principles of the content, and lastly exercises the acquired knowledge and skills. The SSDL process may be aligned with another process, namely Kolb's experiential learning cycle, which is particularly suitable for planning and sequencing learning activities (step 3 in Table 4). Regarding the experiential learning cycle, participants arranged learning steps in the following order of preference: observation (71%), interaction (63%), reading/thinking (56%), and practical exercise (54%).

Table 4: Sequencing the self-instructional learning process

Preferable sequence	Steps (N = 59)	First	Second	Third	Fourth	Fifth	Total
1	Identify learning needs	38 (64.41%)	2 (3.40%)	2 (3.40%)	6 (10.20%)	11 (18.64%)	59 (100%)
2	Formulate learning goals and objectives	1 (1.70%)	36 (61.07%)	11 (18.64%)	9 (15.25%)	2 (3.40%)	59 (100%)
3	Plan and sequence learning activities	5 (8.47%)	14 (25.42%)	34 (57.63%)	4 (6.80%)	2 (3.40%)	59 (100%)

Preferable sequence	Steps (N = 59)	First	Second	Third	Fourth	Fifth	Total
4	Execute the learning plan	4 (6.80%)	6 (10.20%)	10 (16.95%)	38 (64.41%)	1 (1.70%)	59 (100%)
5	Review results/ end product	11 (18.64%)	1 (1.70%)	2 (3.40%)	2 (3.40%)	43 (72.88%)	59 (100%)

Learning activities are concerned with learning strategies, either via the self-instruction process, SSDL or Kolb's experiential learning cycle. Participants indicated an almost equal preference for the passive observation of learning content (86%) and an active involvement with the content (87%), while the interactive learning strategy scored 68 per cent. A combination of strategies is favoured at 83 per cent. While learning strategies refer to one's approach to master a certain type of learning task, learning styles refer to one's preference for processing new content. This distinction comes from Kolb's experiential learning cycle and is explained in the Kolb Learning Style Inventory. It is also published as the somewhat adjusted Learning Style Questionnaire of Honey and Mumford (Kolb 2005, 29), which groups learning styles into four categories (Table 5). Participants grouped themselves as follows: reflector (34%), activist (19%), theorist (15%) and pragmatist (31%).

Table 5: Cataloguers' learning styles

Learning style (N = 59)	Number	%
Reflector	20	33.90
Pragmatist	18	30.51
Activist	11	18.64
Theorist	9	15.25
Missing	1	1.70
Total	**59**	**100%**

The qualitative English narratives of practitioners on their continuing education situation provided contextual information at a personal level. The discourse focused on the interview schedule questions, namely organisations and their support for continuing education, continuing education practices, the cataloguer as facilitator of professional teaching and learning, and the evaluation of self-directed learning in practice.

Participants reported that organisations have a positive attitude to practitioners' continuing education needs in terms of budgets, opportunities and infrastructure. Inside the organisation, there are often professional growth opportunities on the individual (reading), internal (meetings and mentoring) and external (workshops/seminars, online courses) levels. Some of the comments on employer support are listed below (Table 6).

Table 6: Employer support

"[the information centre/library] buys/subscribes to the latest cataloguing tools"
"all staff are exposed to new technologies and new cataloguing methods and tools, e.g. RDA, RFID"
"organisations encourage staff to enrol for courses relevant to work"
"normally training is presented by IGBIS"
"if Sabinet has a workshop, we go"

Practitioners are often presenters at national level learning opportunities. Managers, dedicated trainers, or field experts are involved with cataloguers' teaching and learning processes. Facilitators should be updated on conventional and contemporary cataloguing content. Although experienced in cataloguing and training, they may not possess the relevant official training qualifications and they should learn about suitable teaching and learning approaches for the delivery of cataloguing content via alternative routes. Apart from learning strategies that facilitators apply to train themselves, it is apparent that practitioners utilise reading (e-mail and manuals) and practical or interactive approaches (workshops, discussions) as updating strategies. See some of the respondents' comments in this regard below (Table 7).

Table 7: Facilitating and learning strategies

"I have experience as a trainer, but have not had any formalised training on how to train"
"give cataloguers very thorough on-the-job training [thereafter] expected to keep up with changes – on your own"
"make sure that I'm very well prepared [and] it is time consuming [therefore] you have to plan"
"start with very simple records, allow the person to practice inputting MARC 21 fields on Millennium dummy records [then] I move on to changes of titles, ceased titles"
"encourage lots of questions [and] found it a good practice for another cataloguer to take over the day-to-day mentoring, so everyone is involved to some extent"
"we have a marvellous cataloguing manual"
"we also learn from one another [and] sit together to discuss new things"
"you need to read if you want to keep updated with cataloguing"
"the best way to develop my skill is to prepare a presentation"

However, ill-structured environments are not supportive of the formal management of information organisation departments. This affects continuing education and other managerial tasks negatively, for instance performance evaluation. The non-existence of a continuing cataloguing education programme nationally and the extensive in-service training programmes for newcomers locally are viewed as drawbacks for an efficient cataloguing practice. Curricula are in need of standardisation, must address current professional and generic skill sets and should view resource description in a broader informational context. Familiar continuing education challenges in the information organisation department include short-staffed departments, limited continuing cataloguing education time and budgets and few cataloguers educating from universities. Respondents' comments on the difficulties they experience in their environments are summarised below (Table 8).

Table 8: Environmental difficulties

"most cataloguing sections are understaffed"
"time constraints due to workloads"
"smaller institutions [that] do not have such a big budget, are hampered"
there's a "dedicated trainer [for] in-house training" at some information centres, while at others it "becomes difficult for me to train them [and] it becomes hard for them to train"
"sadness [about] the extent of training to be done 'on-the-job'"
"monitoring training though is a challenge, there's no written procedures"
"We also have a performance management system in place. Strengths and weaknesses are identified. Individual learning plans are compiled and revised annually" versus "We used to have performance evaluation systems, but fallen by the wayside"
"how do you know what you don't know?"
"we already have our degrees" though a feeling is experienced that there's "not enough official training courses available"
"set reasonable staff development goals [also] indicating what kind of learning or training staff needs for better performance"
"IT skills are needed, even if they are minimal"
there is a need for "creating and editing metadata"
practitioners should be "moving more towards cataloguing within the wider library sphere – imperative that cataloguers have a broader understanding of all the information fields, not only cataloguing"

One challenge is the lack of interest of newcomers in cataloguing as evident from a lack of general knowledge, reading avidity and self-direction in learning. An overwhelming

positive outcome for practitioners and facilitators alike is not only the recognition of continuing education efforts by means of a relevant qualification, but specifically being recognised as a ‘‘true professional’’ (Table 9).

Table 9: Reading avidity

“lack of general knowledge is probably the biggest challenge, also the ability to read and train yourself”
this might be a consequence of practitioners “not interested in cataloguing”
“true professional is one who takes pride in [the] work, brings integrity and commitment to it, and takes satisfaction in having done their very best no matter they receive no compliments, rewards, acknowledgement”

DISCUSSION

This study took a closer look at two characteristics of descriptive cataloguing: knowledge and skills. It specifically examined continuing education, which is part of education and training as a professional trait. Characteristically, professionals (such as cataloguers) take responsibility for their own continuous learning. Self-directed learning as determined by learning context, learning processes and their design, and the person as learner, all have a role to play. It has become clear that information practitioners have professional knowledge gaps, and therefore information was gathered about the knowledge profile for cataloguers, self-directed learning and its role in their continuing education, and recognisable patterns of self-directed learning readiness. The information extracted during the data gathering phase was combined to design a possible structured framework (see Figure 2) that may support cataloguers in their ongoing learning endeavours.

The findings indicate that learners are mostly graduates, are employed by various information institutions, but mostly information centres/libraries. They work in information organisation departments with differentiation and specialisation opportunities. They apply functional knowledge to create records for various document types/information resources from the standard, descriptive code AACR – now RDA – which is based on a set of principles that recently became known as the Functional Requirements Model. Generic skills are also applicable. The literature confirms cataloguers’ professional knowledge profile, consisting of functional and generic types of knowledge.

Continuing education is one element of the formal education and training system of a country, and thus continuing education needs and the role players taking care of these needs, cannot be ignored. Recent changes in the documentation/descriptive cataloguing branch of information organisation affect practitioners in their daily work and this necessitates a central training programme that covers functional and generic content.

Since cataloguers already have trouble finding time to attend continuing education opportunities due to small departments and heavy workloads, these realities should be considered when such a programme is being developed.

The findings confirm that cataloguers follow a systematic approach to their ongoing learning to some extent, not only with the steps that they follow, but also in that the next step is more challenging than the previous. Cataloguers also revealed learning styles and strategies aligned with Kolb's experiential learning cycle. Literature on the processes in which professionals engage to continue learning involve continuing education, adult learning theory, self-directed learning theory and the well-known experiential learning cycle, with reference to individual learning styles and strategies.

Although education and training systems provide for continuing education, it is the duty of professionals themselves to take responsibility for their continuous learning needs. Their need for learning arises from circumstances in their individual (position), internal (organisational) and external (national, international) spheres. Individual knowledge and skills updating efforts are supported by role players like employers, professional bodies and academic institutions to meet the challenges of new positions. The self-instructional process can be viewed as an overarching learning approach, while the staged self-directed learning process can be aligned with the experiential learning cycle to design individual lesson plans. Not only are the learning styles of individual learners accommodated, but they are also guided to become independent learners step-by-step. The overall design can be utilised by facilitators of learning (in small groups, or development of a national training programme), or individual learners themselves.

The converged data indicate that cataloguers' practice reflects autonomy and learning-with-others to an extent, while they experience difficulty with self-regulation and reading avidity. Literature views self-directed learning mostly as a process, but for some it is a personal characteristic that enables practitioners to continue learning in their practice. These characteristics — autonomy (i.e. self-instructional learning), learning with others (a learning strategy from the experiential learning cycle), self-regulation (managing continuing education needs in terms of working environments), and reading avidity — are established as the component parts of self-directed learning readiness. Developing self-directed learning readiness as a professional characteristic recognises adult learners' need to know, addresses a way in which professional knowledge and skills gaps could be overcome, and takes individual learning strategies and styles into consideration. Having included self-directed learning readiness into their professional armour, practitioners are geared to "maintain competence and avoid obsolescence" (Oddi 1984, 1-2).

FRAMEWORK FOR CATALOGUERS' SELF-DIRECTED LEARNING

The principles and ideas incorporated in the design of the proposed framework as a solution to practitioners' continuing learning problems correspond with the literature on the subject. It was established that continuing education needs develop on three levels (Ramaiah and Moorthy 2002, 25), while self-directed learning and experiential learning theorists highlight context, process and person as important continuing learning elements (Bines and Watson 1992, 17–22; Brockett and Hiemstra 2012, 158; Fischer, Hallam and Partridge 2005, 19). Others focused on suitable self-directed learning processes (Grow 1991, 126; Knowles 1975, 18), while still others developed a number of characteristics evident in the profile of the learner who is ready to embark on self-directed learning as an updating strategy (Harvey, Rothman and Frecker 2006, 199; Oddi 1984, 6-7). The experiential learning cycle is fundamental to learning styles and strategies, as was demonstrated earlier and recently in teaching and learning approaches (Kolb 1984, 42). The literature is complemented by the empirical data of this study, which not only characterise the continuing education phenomenon according to norms, but also contextualise professional cataloguers' continuing education situation.

The framework presented here is structured around three building blocks: the professional environment and its distinctive spheres within which practitioners perform their jobs, instructional design of the continuous learning process, and the profile of a learner who is ready to embark on self-directed learning as a strategy for keeping up with developments in the field. Distinguishable aspects regarding spheres, steps and characteristics contribute to its flexibility and applicability in various situations:

i. **environmental spheres and levels of change**: changes occur in three spheres: the macrosphere, the mesosphere and the microsphere. The macrosphere is external to information centres. It includes changes to information systems, standards and guidelines, and curriculum content at the national/international level. Changes in the mesosphere occur internally. It involves the type of information centre/institution, organisational structure and infrastructure. Microspheric changes refer to individual adjustments according to the requirements for the position, training needs and learning styles, workloads and readiness for self-directed learning;
ii. **steps for instructional design**: five distinctive steps refer to the now familiar self-instruction process that makes up the continuous learning process. It starts with an analysis of learning needs and systematically progresses through the remaining four steps: setting learning goals, development of a learning/lesson plan (possibly guided by learning stages in the experiential learning cycle, aligned with staged self-directed learning), learning strategies and evaluation of learning (measurement of the extent to which the learning goals were achieved);

iii. **characteristics of the learner ready for self-directed learning**: these characteristics include autonomy, learning-with-others, self-regulation, and reading avidity, and prepare professionals to be competent in their jobs.

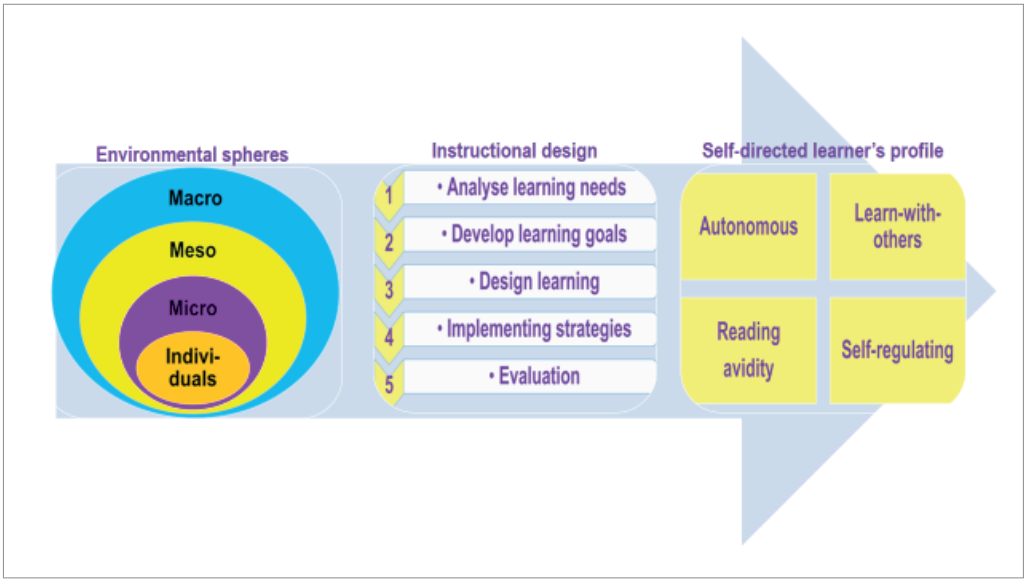

Figure 2: Proposed self-directed learning framework

Apart from its flexibility and adaptability, an important benefit is the framework's theoretical soundness. It fulfils the IFLA (2014, 1–2) requirement for continuing education by focusing strongly on self-directed learning theories, stressing the significant role of the individual practitioner in his/her own learning. It also meets the professional requirement of continued learning in their professional practice. Once they do so, cataloguers – or metadata specialists – can contribute to strengthening the information profession.

CONCLUSION

A self-directed framework was designed to meet practitioners' cataloguing knowledge gaps. The framework confronts the continuing education status quo and urges practitioners to become active decision makers by positively adjusting their "not-knowing" that may arise in their cataloguing practice from time to time. The framework is grounded in sound literature and empirically tested for the current situation. It consists of three parts: addressing changes in the macro-, meso- and microspheres, providing an instructional design recipe that will move the learner from a state of not-knowing to better-knowing, and developing personal qualities that keep professionals competent

for their cataloguing practice. The framework may be investigated for applicability as a personal development tool in future or be utilised by learning facilitators in small group training situations. It can even aid the development of a national information organisation training programme. In addition, the framework may be utilised to establish the differences and overlaps between "cataloguers" and "metadata specialists" as professional groups.

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