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Towards a conceptual framework for communicating library training to students in South African university libraries: A literature review

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ABSTRACT

Developing conceptual frameworks to improve library training among librarians in South African university libraries is not common. The purpose of this article was to assess, synthesise and critique available literature to determine the extent to which librarians in South African university libraries could reflect on their library training and synthesise relevant theories and models that can assist develop a conceptual framework for communicating library training. The integrated literature review focuses on five central themes namely: communication models, the evolution of technology, learning theories, social learning and web based learning environments, and the role of authority in teacher-learner relationships. The article argues that academic librarians operate within the universe of teacher-learner relationships in library training initiatives, albeit unconsciously so. This makes library training in South African university libraries a mature topic needing reconceptualization. Future research should employ single and multiple case study research designs to formulate frameworks on a case-by-case basis.

1. Introduction

Although the use of conceptual frameworks in library and information science (LIS) research is entrenched (Afzal, 2008; Grover & Glazier, 1986; Grover & Hale, 2014; Ikoja-Odongo & Mostert, 2006; Simpson, 2019; White & King, 2020), developing conceptual framework to improve library training among librarians in South African universities libraries is not common. Grover and Hale (2014: 9) assert that “librarians traditionally have provided passive or reactive levels of service in academic libraries ... and propose that librarians should assume a proactive role in the research process by understanding the information transfer process and the role of the researcher”. Conceptual frameworks can be useful for academic library professional practice. The academic librarian should assume the role of researcher in light of changes in institutions of higher learning.

The article argues that academic librarians operate within the universe of teacher-learner relationships in library training initiatives, albeit unconsciously so. This makes library training in university libraries a mature topic in need of reconceptualization. Library training initiatives should align with teaching and learning initiatives at the institutional level. The concept of “library training” in the article refers to user education or library instruction as used in other parts of the

world. The focus is on the way in which information about library training is communicated. The terms library training, library instruction and user education, and information literacy training are used interchangeably.

The integrated literature review covered older and newer sources published between the years 1964 and 2021. The review was undertaken across various disciplines namely: library and information science, communication science, education, and psychology to find out what researchers have written on the topic. The integrated literature review focuses on five central themes namely: communication models, the evolution of technology, learning theories, social learning and web based learning environments, and the role of authority in teacher-learner relationships. The next sections address the purpose and objectives, the problem statement and theoretical framework, methodology, and data analysis procedure, discussion of findings and future research direction, and conclusion.

1.1. Purpose and objectives

The purpose of this article was to assess, synthesise and critique available literature to determine the extent to which librarians in South African university libraries could reflect on their practice and synthesise

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relevant theories that can assist develop a conceptual framework for communicating library training. An integrative literature review design sought to achieve the following objectives:

- To assess, synthesise and critique available literature
- To encourage librarians in South African libraries to reflect on their library training practices
- To map the way for future research direction on library training in South African university libraries

The research objectives guided the literature review and set an agenda for future research. The next section addresses the problem statement.

1.2. Problem statement

South African university libraries support the teaching, learning, and research activities of the university through information searching, curation, and training sessions aimed at guiding students on how to access and use library resources. However, the outbreak of the COVID-19 pandemic has affected the way librarians communicate with students as most of the activities have moved to the online environment.

A major challenge experienced by South African librarians in providing library training is the lack of uniformity in content designed and facilitated for information literacy modules. Most South African university libraries have a teaching and learning services section that facilitates information literacy modules through “library training”. Yet, some librarians are not involved in the design of the information literacy module provided by Centres for Teaching and Learning (CTLs). Despite the availability of a study guide with a tutorial on information literacy by CTLs, librarians in South African university libraries develop their own tools for communicating “library training”. These tools suffice without a framework that considers communication theories, learning theories, and information literacy frameworks used in institutions of higher learning elsewhere in the world. Furthermore, there are inconsistencies relating to the naming of the activity herein referred to as “library training”. While some university libraries in South Africa refer to the activity as library training, others refer to the activity as information literacy, user education or library instruction. Library education in South African universities refers to the activity as library instruction or user education. The use of different nomenclature for activities that relate to library education in South African university libraries is concerning and causes confusion amongst students.

Research about the use of frameworks for library training elsewhere in the world exists. According to the Association of College and Research Libraries (2016: 7), “the development of a framework for information literacy is born out of the belief that the reformative information literacy movement can only realize its full potential through richer and more complex core ideas. The association recognizes that rapid changes taking place in the ecosystem of education require a focus on foundational ideas”. To this end, a *Framework for Information Literacy for Higher Education* exists with suggestions for implementation and use (Association of College and Research Libraries, 2016). However, existing frameworks for information literature have attracted criticism from scholars.

Critics of documents such as the *Framework for Information Literacy for Higher Education* caution against its essentialist ideological underpinnings. Searle (2016) argues that the approval of the *Framework for Information Literacy for Higher Education* embraces neo-liberalism, an ideology based on the dictates of the markets. One limitation of the Association for College and Research Libraries *Framework for Information Literacy for Higher Education* is its lack of emphasis on ideological influence. Based on the critique of the framework in information literacy, the authors contend that students should think critically in library training.

Lamb (2016) asserts that it is important to understand how students learn when developing materials for instruction. Lamb (2016) further

posits that instructional designers [librarians, authors’ emphasis], need to understand novice, expert students and how they learn. Importantly, Lamb (2016) highlights the importance of understanding the origins of learning theory. Most of the research on frameworks for information literacy exists in the United States of America, which presents a research gap in developing countries, particularly South Africa.

This article is original in that it assesses, critiques, and synthesises existing literature that sets the research agenda for the development of a conceptual framework for communicating library training in South African university libraries. The next section discusses the theoretical framework of the article.

1.3. Theoretical framework

This article employs holistic perspectivism as a theoretical framework. “Holistic perspectivism is an epistemological position that considers all forms of knowing in library and information science to create a platform for alternatives to dominant modes of thinking” (Dick, 1999: 319). The theoretical framework emphasizes drawing from philosophy to understand the different ways of knowing that underpin professional library practice. Holistic perspectivism differs from the proposal to replace positivism with hermeneutic phenomenology (Budd, 1995). Professional library practice in South African university libraries can benefit from reviewing epistemological positions, and frameworks in library and information science, and other disciplines. In conducting the literature review, the authors sought to encourage librarians in South African university libraries to think about the significance of frameworks for library training.

The theoretical framework for this article assumes that librarians providing library training in South African universities do not question the underlying philosophical issues that underpin their professional practice. The assumption borrows from the experience of the authors, having worked as librarians in South African university libraries. In addition, the theoretical framework borrows from seminal philosophical debates in library and information science between researchers such as Zwadlo (1997), Radford and Budd (1997), and Dick (1999). Whereas authors such as Zwadlo’s (1997) disagree with the need for philosophy in library and information science, Radford and Budd (1997) posit that there is a need for philosophy in library and information science.

According to Hjørland (2005), philosophical debates on concepts and knowledge in library and information science take place within the four families of epistemology namely, rationalism, empiricism, historicism, and pragmatism. Rationalism holds that reason is the main source of knowledge, empiricism focuses on sense experience, and historicism holds that all knowledge is historical while pragmatism holds that knowledge is knowledge if it works satisfactorily (Hjørland, 2005). It is the intention of this article to reactivate debates that took place in the early 1990s between researchers in library and information science, especially with regard to competing epistemologies in librarianship. Librarians in South African university libraries can be located within competing epistemologies in librarianship.

There are competing epistemologies in librarianship. Oyieke (2020) posits that the dominant ideology in library practice is practicality. Budd (1995) proposed hermeneutic phenomenology as an alternative epistemological position to positivism in library and information science. Positivism is a philosophical position that rejects all that is unobservable in an investigation as illegitimate (Kremer-Marietti, 1998). Dick (1999: 312) posits, “there are competing epistemologies that coexist in tension with each other at any given time”. The literature review assisted the authors with the discovery of diverse ways of knowing for consideration.

The next section discusses the methodology adopted in the article.

1.4. Methodology

The integrated literature review adopted a holistic qualitative approach informed by social constructivism as one of the alternative

worldviews that require advocacy in South African university libraries. According to (Torraco, 2005), integrated literature reviews assist researchers to assess, comment on, and synthesise available literature that can be useful for developing a new theory or framework. Jennings (2005) posits that qualitative approaches are associated with holistic-inductive paradigms such as social constructivism. Social constructivism focuses on knowledge building, interaction, and discussion among instructors and students (Detel, 2001). The methodology followed the conventions and guidelines for reporting on how the integrated review was conducted (Torraco, 2005), to set a research agenda (McColl-Kennedy et al., 2017) for communicating library training in South African university libraries.

The inclusion criteria for searching the literature was as follows:

- Publications should speak to communication models
- Publications should present seminal debates and discussions of the philosophy in library and information science, and the role of epistemology in library practice.
- Publications should identify literature on blended, remote, and distance learning
- Publications should cover literature on learning theories, social learning and web based environments.
- Publications should identify the role of authority in teacher learner relationships.

In light of the criteria above, the authors identified publications for review.

1.4.1. Identifying publications

The review consisted of published and unpublished literature in a form of electronic resources in databases consisting of journal articles (Refer to Table 1), printed books (Refer to Table 2), and hypertext mark-up language articles on websites (Refer to Table 3). A sample of 32 PDF journal articles was identified from 23 electronic journals, including three printed books, one framework, and articles in a hyper-text mark-up language from six websites.

The following search terms sufficed for the literature review search. Boolean operators “AND”, “OR” were used to expand and narrow searches.

- Philosophy library and information science
- Epistemology
- Communication theories
- Blended learning, remote and transactional distance
- Social learning theory and Web-based learning environments
- Authority in academia
- Conceptual frameworks in library and information science and practice
- Blended librarianship
- Library instruction
- Literature review, integrated

Tables 1 and 2 show the search terms used to search for articles in electronic journals and books in library catalogs.

1.4.2. Publication selection and retrieval

Both authors selected journal articles, considering the integrative literature review. The authors selected three articles from the journal *The Library Quarterly* as a pilot. The pilot phase followed the recommendation for testing search terms by Snyder (2019), and a broader search in a sample of 22 electronic journals. The authors considered data saturation when the search yielded no new results. Electronic journal articles selected covered four broad disciplines namely: communication science, library and information science, education, and psychology. Identifying these broad disciplines assisted the authors to select and retrieve journal articles that emphasize interdisciplinarity.

Table 1

Search terms in electronic databases, journals and number of articles.

Search terms	Databases	Journals	No
Philosophy AND Epistemology OR library AND information science,	Google Scholar/JSTOR	The Library Quarterly	3
Communication AND theories	Google Scholar/SAGE Journals	Journal of Business Communication	4
	Google Scholar/SA ePublications	Journal of Librarianship and Information Science	1
Transactional distance AND distance education,	Google Scholar/Taylor & Francis Online	The American Journal of Distance Education	1
Socialization AND teachers	Google Scholar/Eric	Internal Review of Research in Open and Distance Learning	1
	Google Scholar/EBSCO	Journal of Education and Practice	1
	Google Scholar/SAGE Journals	Journal of Industrial Teacher Education	1
Social learning theory AND web-based learning	Google Scholar/Eric	Internal Review of Research in Open and Distance Learning	1
Environments AND technology education	Google Scholar/DOAJ	International Journal of Cognitive Research in Science (...)	1
Authority AND academia	Google Scholar/Science Direct	Organisational Behaviour and Human Decision Processes	1
	Google Scholar/Springer	European Journal of Psychology Education	1
Library AND information science AND conceptual frameworks OR theory building AND blended librarianship	Google Scholar/Science Direct	The Journal of Academic Librarianship	3
	Google Scholar/SAGE Journals	Journal of Library and Information Science	1
	Google Scholar/SAGE Journals	Library and Information Science Research e-journal	2
	Google Scholar/Taylor & Francis Online	Journal of Library Administration	1
	Association of College and Research Libraries	College and Research Libraries	2
Blended librarianship	Google Scholar/JSTOR	Reference & User Services Quarterly	1
Literature reviews, integrated	Google Scholar/Science Direct	Journal of Service Management	1
	Google Scholar/Science Direct	Journal of Business Research	1
	Google Scholar/Science Direct	Human Resource Development review	1
	Google Scholar/Semantic Scholar	Management Information Systems Quarterly	1
Positivism	Google Scholar/JSTOR	Revue Internationale de Philosophie	1

Table 2

Search terms, books and year of publication.

Search terms	Book title	Date range
Social AND learning theory	Social learning theory	1977
Communication AND theories	Shannon and Weaver's model of communication	1964
Theory AND distance education	Theory of transactional distance	1997

The inclusion and exclusion criteria for publication selection and retrieval was as follows:

- Include publications that define communication as it occurs in a system

Table 3
Search terms, website, and type of publication.

Search terms	Websites	Type of publication	Date range
Information literacy AND framework United States of America	Association of College and Research Libraries	A framework for information literacy for higher education	2016
Information literacy AND strategies, Library AND information professionals'	Eduscapes	Hypertext mark-up language	2016
Bloom's taxonomy AND	Benjamin Bloom	Hypertext mark-up language	1956
High order thinking	State Government Victoria	Hypertext mark-up language	2019

- Include publications that critique the Shannon and Weaver model
- Include publications that highlight seminal debates and publications on philosophy in library and information science
- Include publications that highlight the advantages and disadvantages of blended, remote and distance learning.
- Include publications that highlight developments in pedagogy, and social learning in web-based environments.
- Include publications that put the spotlight on authority in teacher-learner relationships.

Considering the inclusion criteria, the authors excluded publications that were not relevant. The exclusion criteria was as follows:

- Exclude publications that do not critique the Shannon and Weaver model
- Exclude publications that do not emphasize borrowing insight from philosophy in library and information science

The next section addresses the data analysis procedure.

1.4.3. Data analysis procedure

The authors employed key concepts to determine significance and relevance and examined all publications. The authors relied on the full references list in each article to assess, comment on, and synthesise concepts emanating from the literature. As advocated by [Snyder \(2019\)](#), the analysis started with an initial review of abstracts followed by an in-depth review of the publications. The in-depth review assisted with the selection of concepts suitable to set the agenda for future research. Concepts were categorized according to broad disciplines namely: library and information science, communication science, education, and psychology.

The authors employed concepts for data analysis. [Webster & Watson \(2002: xvi\)](#) assert that because "literature reviews are concept-centric, a concept matrix should be compiled during the analysis of the selected sample of publications". The concept matrix (Refer to [Table 4](#)) was used to group and identify the main themes that were the focus of the integrated literature review. [Table 4](#) presents the main concepts categorized and synthesised into the following themes for review:

1.5. Communication models

Communication is a broad term in everyday ordinary language, and the scientific discipline of communication. For instance, every morning, Sipho communicates with his neighbour as follows: Sipho: *morning*, Neighbour: *morning, how are you?* Sipho: *I am well*. This is communication in the ordinary language sense. In contrast, [Quirk \(2003\)](#) defines communication as a process in which two or more people engage in the exchanging of information, thoughts, and feelings through words and other physical gestures. This definition indicates that the central

Table 4
Matrix of articles, books, web documents informing proposed main concepts.

Articles/books/documents	Concepts
Shannon and Weaver's Communication model	Information source
<i>Theory of transactional distance</i> ; Emerging practice and research in blended learning	Transactional distance; blended learning
The Science of Remote Learning	Remote learning
'Three Generations of Distance Education Pedagogy'	cognitive-behaviourism, social constructivism, and connectivism
'The importance of educational technology in teaching'	Education technology, Technology teachers, instructional designer
'The Socialization of Technology Teachers: Two Unique Cases'	Socialization, learner experience
Social Learning Theory	technology teachers
Bloom's taxonomy	Learner characteristics, context, community and culture
A Framework for Information Literacy for Higher Education	Deep learning
'Authority in the classroom: adolescent autonomy, autonomy support, and teachers' legitimacy'	Authority
'The Role of Teacher's Authority in Students Learning'	Teacher legitimacy, learners' autonomy
<i>Evolution of Technology</i>	Teacher authority, students learning
IoT connected devices worldwide 2030	Evolution, technology
	Internet of Things

hypothesis in communication is information dissemination. [Umoren and Agwunobi \(2017\)](#) argue that for communication to take place effectively there must be a receiver of the information or message, (audience) and there must be a reaction to the message received back to the sender of the message. [Conroy and Jones \(1986\)](#) argue that the main reasons librarians communicate are: to inform, gather information, motivate, persuade, instruct, coach, counsel, mentor, develop staff, and build teams. [Conroy and Jones \(1986\)](#) further add that this extends to external communication, in which libraries use technology to relay messages about their visibility and marketing. The advent of internet technology completely changed the means and mode of communication process in libraries ([Umeozor 2020](#)). Librarians exchange messages to share information using information and communication technologies. Therefore, librarians pass as information sources.

1.5.1. Information source

Since librarians decide on the messages communicated for library training, they also pass as information sources. According to [Shannon and Weaver \(1964\)](#), the communication system begins with an information source. The information source communicates from a set of possible messages. The message may take the form of oral, written text, pictures, videos, and music. A *transmitter* transmits messages in the form of a *signal* through a communication channel towards a *receiver*. Important to note is that the "message transmitted can be distorted in sound, picture, and image as well as by error in transmission" ([Shannon & Weaver, 1964: 7](#)). Similarly, messages from librarians to students during library training can be distorted as alluded to by critics of the Shannon and Weaver model.

1.5.2. Critics of Shannon and Weaver' communication model

Critics of [Shannon and Weaver's \(1964\)](#) model argue that it has proven inadequate to explain the process of human communication beyond the radio and telephony industry (see [Bowman & Targowski, 1987](#)). Since 1964, several authors have sought to expand on Shannon and Weaver's model by modelling alternative perspectives on the complex process of communication. For instance, [Cherry \(1966\)](#) criticised the model for mistakenly being referred to as information theory. [Bowman and Branchaw \(1977\)](#) added simultaneity to the transmission model to illustrate that a human communicator has send and received messages at the same time. [Herbert \(1977\)](#) added the element of goal orientation. [Michman and Harris \(1977\)](#) added focus on external influencers in the communication process. [Baskin and Bruno \(1977\)](#) added

the psychological element to the model. Furthermore, there is confusion on the name of the Shannon and Weaver communication model, with some referring to it as information theory or mathematical theory of communication. The model bases its experiences on the telephony industry in the United States of America. The geographic origins of the model cast doubt on whether the model can be adaptable to geographical locations in developing countries such as South Africa. Moreover, the systems approach of the model raises concerns about the human element in communication. Despite these deficiencies, the authors believe that [Shannon and Weaver's \(1964\)](#) Communication Model represents seminal work in communication studies. The model offers a simplistic view of the origin of messages in the human communication process. Therefore, the concept of information source in the model has relevance for library training in South African university libraries. The information source determines the type of messages communicated and feedback from students, especially in a blended learning environment. The author's focus in this article is on communication as it appears in communication science literature. South African university libraries could draw from the diversity of perspectives on communication to enhance library training. To understand the significance of the Shannon and Weaver model in library training, a review of literature on the evolution of technology is necessary.

1.5.3. The evolution of technology

There is no doubt that the evolution of technology has affected the higher education landscape, especially the communication media used in mediating teaching and learning. This impact is more vivid during the COVID-19 pandemic. In the past, teachers sent letters to students through postal services. Floppy disks, VHD videotapes, CD-ROMs, television, and radio followed the use of postal services. In the early 1990s, the introduction of the World Wide Web saw the gradual development of the internet with slow dial-up connections. The situation changed as more people began appreciating the value of the internet. Faster connections on the internet-enabled the emergence of websites and blogs linked through connected computers. With the availability of smartphones, people in separate locations can connect through data or WiFi connections. With smartphones, people can connect using applications linked to different social media sites that enable text messaging and video calling ([Lamey, 2018](#)). The latest developments in technology indicate a move towards interconnectedness.

According to [Vailshery \(2021\)](#), there were 22 billion internet of things; connected devices by the end of 2018. Current trends in technology point to the internet of things, a phrase used to refer to the rise of Artificial Intelligence and the interconnectedness of devices linked through the internet and telecommunications. Nowadays people can exchange data via Bluetooth and sharing applications, stream live content, create and save content on the cloud. The future points to the use of robots, smart cars. Library training in South African university libraries can benefit from an understanding of the evolution of technology and its impact on education and training.

While rapid technological developments can add value to library training, university libraries in South Africa should be wary of accepting technological tools without critique. Research shows that the technology acceptance model ([Davis, 1989](#)) provided insight into the determinants of technology acceptance. It has become normal for university libraries in South Africa to adopt and accept technological tools based on the variables of perceived usefulness and perceived ease of use. In other instances, university libraries in South Africa adopt technological tools based on extended determinants of technology acceptance such as social influence (e.g. subjective norm, voluntariness, and image), and cognitive instrumental processes (e.g. job relevance, output quality, result demonstrability, perceived ease of use) as highlighted by [Venkatesh & Davis \(2000\)](#). Whereas the technology acceptance model and its extension are important theoretical contributions to knowledge, the models are universal in nature, and therefore lack the local (South) African context. There is a need to adapt these models to the local context in

order to address contextual factors such as culture, psychology, language, and epistemological diversity of library users in developing countries. Librarians should continue to play a mediator role between library users and technological tools.

The authors contend that technology driven library training can affect positively on library users when university libraries are proactive in its use. Being proactive means that instead of always taking a wholesale approach, libraries adopt and accept technological tools on a case-by-case basis, taking into consideration local factors. Librarians in university libraries should take a proactive approach to the diffusion of technology to prevent rendering technological tools obsolete. Technology also has a bearing on the development of learning theories.

1.5.4. Learning theories

Similar to teaching at a university, library training (library instruction) allows librarians to empower users with information skills. According to [Moorefield-Lang \(2019\)](#), library instruction can be useful in professional development, through peer training, in spaces where professionals teach each other a variety of skills and share information across the amazing professional learning network of librarians, paraprofessionals, library directors, and professors. [Madukoma et al. \(2013\)](#) argue that library instruction in academic institutions assists students with the necessary intellectual ability and skill to access and retrieve information as well as construct a framework for learning. The effect of library instruction goes beyond the number of years that students spend in a university setting. It is therefore important that librarians who train users understand the three generations of pedagogy.

1.5.4.1. Three generations of pedagogy. Learning theories can assist librarians in South African universities to frame library training. There are three generations of pedagogy namely cognitive-behaviourism, social constructivism, and connectivism ([Anderson & Dron, 2011](#)). Whereas the first generation of pedagogies (i.e., cognitive-behaviourism) focuses on the instructional designer, the second generation (i.e., social constructivism) focuses on locating the learner within the social environment. Importantly, the three pedagogies are not mutually exclusive and build on each other. Hence, the third generation of pedagogies (i.e., connectivism) is an extension of the first and second generation.

The challenge with introducing the three generations of pedagogy to library training is that librarians perceive learning theories as an exclusive competence of academics. The perception stems from the scientific jargon that is associated with learning theories in the academy. While it is the intention of this article to encourage fellow librarians to consider the significance of learning theories in library training, the authors are aware that the adoption of scientific jargon associated with learning theories might prove cumbersome to practising librarians. It might take years for librarians in South African university libraries to adjust to using scientific jargon in library training. While learning theory in a form of the three generations of pedagogy is the bedrock of teaching, learning, and research activities of universities, practicing librarians in South African university libraries may find it difficult to understand its jargon. Learning theory as it appears in the cited literature is often mistaken for a language of academics in faculties. While the authors appreciate the abstract nature of theory in higher education, they propose that abstract learning theories can find traction in South African libraries when explained in lay man terms. Both jargon and lay man terms are necessary to provide a holistic perspective of learning theories and their application in library teaching activities. A gradual approach to the use of scientific jargon in library training might be helpful. This gradual approach can begin with an understanding of learning theories within classifications of education.

1.5.4.2. Classifications of education. Librarians in South African universities can transform library training with a basic understanding of

classifications of education. The three generations of pedagogy can be located within two dominant classifications of education available in literature written in the early and late 2000s namely: education that is based on educational technology and technology teachers (Hansen, 1998; Stosic, 2015). Other studies suggest a move towards learner experience and the socialization of technology educators as important in education, in particular distance education (Leal-Rodriguez & Albort-Morant, 2019; Hansen, 2000). Depending on the classification of education librarians identify with, belonging to either of them is necessary to adapt to the blended learning environment in South African universities.

1.5.4.3. Blended learning and librarianship. During hard national lockdown caused by the COVID-19 pandemic, Centres for Teaching and Learning in South African universities adopted a blended learning approach as all support services moved online. Similarly, libraries moved all library training to the online environment to ensure that students access resources while away from campus. Blended learning refers to the mixing of physical and virtual teaching, learning, and research activities enabled by information and communications technologies (Graham, 2013). Mbambo-Thata (2020: 5) asserts that COVID-19 forced students out of campuses, changing the mode of delivery for library services from “walked-into-the library” to “students-were-off-campus”. These developments point to the influence of the theory of distance education on teaching, learning, and research activities in contact universities.

The challenge with the sudden adoption of blended learning practices is that many librarians might lack the necessary technological skills to provide library training in a web based environment. The ability to use learning objects to create tutorials in a learning management system such as Blackboard requires a certain level of skills. Without the knowledge and skills, librarians would find it difficult to provide library training using blended learning modes. The inability to train library users in a web-based environment can be exacerbated by the transactional distance that occurs between librarians and users.

1.5.4.4. Transactional distance and remote learning. Lessons from the COVID-19 pandemic indicate that traditional contact universities in South Africa have adopted a blended learning approach that incorporates elements of distance education or remote learning. The concept of remote learning gained traction during the COVID-19 pandemic, wherein researchers believe online learning can assist solve problems of the past (Krull & De, 2021). The situation puts the spotlight on ‘transactional distance’ - the universe of teacher-learner relationships that occur when teacher and learner are separated by space and/or time. Separation means that there is a psychological and communication space crossed between learner and teacher (Moore, 1997: 22). According to Moore (1997), three variables can assist with an understanding of learner behaviour namely dialogue, structure, and learner autonomy. For this article, the focus was on dialogue and communication media as subsets. Important to note is that the extent of dialogue relies on the philosophy of the teacher or group that designs the content, the personalities of the learner and teacher, the subject matter of the content and environmental factors. “Communication media used determines the extent and quality of dialogue between teacher and learner” (Moore, 1997: 23). Librarians providing library instruction in South African university libraries participate in what Moore (1997) describes as the universe that informs teacher-learner relationships, albeit unconsciously so.

The latest research indicates that many researchers support blended learning and remote learning in institutions of higher learning across the world (English, 2022; Goodell & Kessler, 2020; Lee, 2022; Mackay, 2022). In contrast, other researchers posit there are challenges and pitfalls relating to blended learning and remote learning (Cao et al., 2020; Lischer et al., 2021; Zhang et al., 2020). Among other challenges,

these authors cite mental health problems, data costs, lack of technological equipment, and difficulties of learning from home. It is clear that blended learning and remote learning has advantages and disadvantages. Some of the challenges highlighted above are widespread in South African universities. While blended and remote learning modes might have been beneficial to some, students from impoverished backgrounds experience challenges relating to bandwidth, lack of technological equipment, electricity load shedding, unstable family environments, and data costs. In response to some of these challenges, some universities in South Africa introduced measures to enhance access to teaching and learning resources remotely. With blended and remote learning modes gaining traction, lecturers in South African universities had to adjust their teaching to encourage social learning; especially in web based learning environments. Similarly, librarians in South African universities have to adjust their approaches to library training in light of learning in web based learning environments.

1.6. Social learning and web based learning environments

Social learning derives from the second generation of pedagogy also known as social constructivism. According to Bandura (1977), social learning involves learning that occurs because of modelling within a social context. In other words, social learning occurs by way of example. Social learning theory draws from three generations of pedagogy namely cognitive-behaviourism, social constructivism, and connectivism (Anderson & Dron, 2011). Whereas the first generation of pedagogies (i.e., cognitive-behaviourism) focuses on the instructional designer, the second generation (i.e., social constructivism) focuses on locating the learner within the social environment. While Bandura (1977) highlights a psychology perspective on learning, librarians in South African university libraries can draw valuable insight from social learning theory. Communicating library instruction to a diverse group of students in South African university libraries requires that librarians have a basic understanding of the key concepts (e.g. learner characteristics, context, community, and culture) of social learning theory, especially in Web-based learning environments such as Blackboard.

1.6.1. Learner characteristics

Library users have different learner characteristics. According to Hill et al. (2009: 90) “learners’ characteristics consist of epistemological beliefs, individual learning styles, confidence in handling tasks (i.e., self-efficacy), and motivation”. Human beings are naturally diverse with different beliefs and preferences. It is therefore important for librarians in South African universities to acknowledge that learners have distinct characteristics. For example, some learners believe knowledge is socially constructed. Discussion groups and blogs create conditions for the social construction of knowledge. In contrast, some learners construct knowledge independently of the social world. Such learners might prefer learning through the rationality of the librarians in library instruction. While allowing library user’s autonomy over their learning characteristics is necessary, it remains the responsibility of librarians to channel different learning characteristics towards library training outcomes. Autonomy should not be mistaken for overriding the mediatory role of librarians in library training. The focus should be on achieving the outcome of library training using approaches that complement each library user characteristics, and context.

1.6.2. Context

As already indicated, social learning takes place within a context. Hill et al. (2009) posit that context relies on interaction, modelling, group, and class size in blended learning environments. Offices of Student Governance in most South African universities recognise the significance of engaged scholarship among students. As Moema (2021) puts it, the office of student governance “intends to encourage engaged scholarship among students ...”. Library training can enhance engaged scholarship. Librarians can create activities and environments for

students to engage in high-order thinking, focusing on the student's ability to apply knowledge in new contexts through critical thinking and problem solving (State Government of Victoria, 2019). High-order thinking is also associated with Bloom's taxonomy - a framework that focuses on categorising learning goals in education programs (Bloom, 1956). Through the modelling of activities, librarians can create conditions for the interface with library instruction at a higher level of thinking by students. Librarians can use discussion groups, blogs, and case studies to enhance interaction through synchronous and asynchronous communication platforms. The bigger the class size, the more the possibility of interaction and group participation, thereby resulting in social learning.

The challenge with contextualising library training in South African libraries is the dominance of the systems approach to information literacy training. Many librarians focus on training library users on how to use systems, thereby neglecting other approaches that can encourage library users to be critical of the systems they use. Critical information literacy can assist librarians in South African universities to overcome the reductionist approach to communicating library training. According to Tewell (2018), critical information literacy seeks to respond to the limitations of information literacy by putting a spotlight on the social and political dimensions of information and education in university libraries. A critical library user population is crucial to localise library training towards local South African communities and culture.

1.6.3. Community and culture

Another construct of social learning is community and culture. Design for social and experiential learning in an online environment should consider the differences that exist within a community of learners. Hill et al. (2009: 92) view culture and community from two lenses: gender and ethnicity. The construct of community and culture has relevance to the South African context. Since 1994, the South African constitution has laid a foundation for bringing issues related to gender equality and justice to the centre of national discourse. This is evident in the existence of communities of practice that draw from the Bill of Rights of the Constitution of the Republic of South Africa (Commission for Gender Equality, 2021). Librarians should consider the diversity of the library user population when communicating messages.

Although social learning provides teachers with an opportunity to model learning activities, the theory is rooted in the discipline of psychology. Librarians who reactively provide traditional support services (see also Grover & Hale, 2014) might find it difficult to connect to psychological perspectives on learning. Therefore, the adoption of social learning in South African university libraries might require that librarians are sensitised to holistic perspectives (see also Dick, 1999) on alternative ways of knowing, which is also the theoretical framework of this article. Furthermore, social learning in web-based learning environments has the potential to take away the authority of the teacher when implemented as a replacement of learning and teaching activities rooted in cognitive behaviourism. The reason is that students have more autonomy in social learning platforms connected to technology devices than in a traditional classroom environment managed solely by the teacher. While the notion of providing students with an opportunity to construct knowledge through social groups is commendable, all activities require some form of structure to avoid the derailment of the teaching and learning activities in library training. Moreover, the adoption of social learning in web-based learning environments is technology-intensive and requires a certain level of skills by librarians.

Without the necessary skills on how to use the latest digital technologies, librarians would find it difficult to adapt and effectively utilise social learning theory in web-based learning environments for library training. Ahlfeld (2020) argues that librarians have always adapted to challenges, which include budget issues, loss of staff, natural disasters in facilities, changing systems, both offline and online, new formats for reading, diverse technology and machinery, and the internet. Chisita (2020) views the Covid-19 pandemic as a prospect for libraries to stamp

their authority as an important support department and show usefulness by providing high-quality services using various digital technologies. Based on the explanations by Ahlfeld (2020) and Chisita (2020), the authors contend that librarians in South African university libraries can improve on library training by strengthening their authority among the library training user population.

1.7. The role of authority in teacher-learner relationships

The librarian as an information source should exude some authority, even in web-based learning environments. According to the Merriam-Webster Merriam Webster Online Dictionary (2021) authority is the power to influence thought, opinion, or behaviour. The Association for College and Research Libraries (2016) recognizes that authority is constructed and contextual. Information resources reveal the expertise and credibility of their creators. Students can understand authority differently and can view librarians with scepticism or challenge them for new perspectives. As learners develop information literacy abilities, they also develop their ability to question different types of authority and use research tools to determine the legitimacy of sources. Students can also use their information literacy abilities to develop an understanding of how their respective disciplines determine authority in publications. Importantly, they develop information literacy abilities "to appreciate the diversity of views, authoritative sources, and the need for self-evaluation" (Association of College and Research Libraries, 2016: 12).

Literature in psychology shows that younger generations question the legitimacy of teachers (Graça et al., 2013). The authority of the teacher plays a role in the learning of students (Esmaeili et al., 2015). Although librarians are not teachers in the academic sense, younger students can question their legitimacy in library instruction. At the same time, the authors argue that there is a fundamental difference between demonstrating authority as a librarian and earning authority through skills and knowledge. For instance, adding a qualification to an email signature can demonstrate authority while designing library-training tutorials that speak to learning theories can create conditions for enhancing the authority of librarians. The authors are of the view that librarians in South African university libraries can reap great rewards by operating in the latter. Authority should not pass for the suppression of student experiences.

1.8. Discussion and findings

There is evidence of literature that can be useful for "expanding on the knowledge base towards the development of a framework" as recommended by Snyder (2019: 336). Generally, university libraries in South Africa relied on electronic communication such as email, announcements on learning management systems (e.g. Blackboard), library websites (e.g. new update and libguides), and social media during the COVID-19 pandemic. Data from a survey report (see Molepo & Shokane, 2021) at the University of the Free State shows that internet accessibility impacted both positively and negatively on library training. Participants in the survey indicated a satisfaction with the provision of library services online. Furthermore, participants indicated that library training needs improvement. Although participants did not specify which aspects of library training require attention, the survey report recommended that communication models used by librarians should be investigated to strengthen communication with users. Based on practical examples in the survey by Molepo and Shokane (2021) the authors of this article assert that from the five themes identified earlier, communication models, learning theories, and the role of authority in teacher-learner relationships impact library training the most.

The next section synthesises a review of the literature with a focus on: communication models, learning theories, and the role of authority in teacher-learner relationships. This discussion draws from holistic perspectivism, which is also the theoretical framework of this article (see also Dick, 1999). Refer to Fig. 1 for a frequency of the findings.

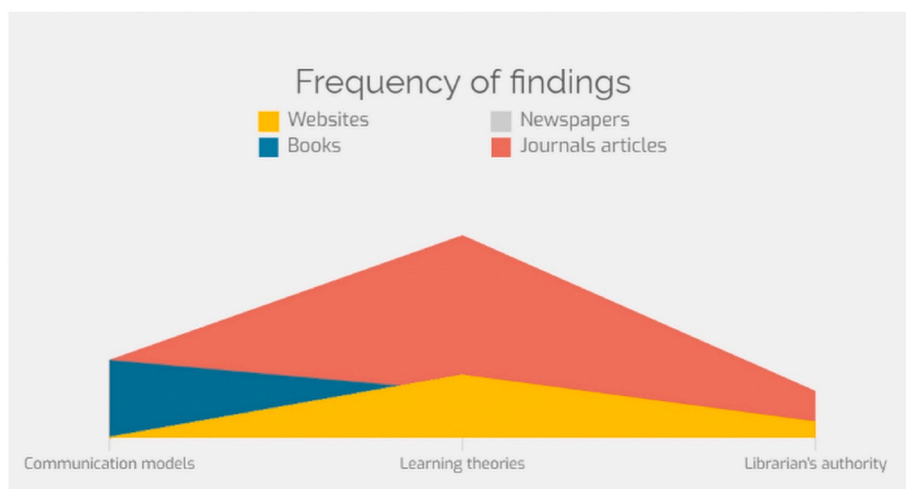


Fig. 1. Represents the frequency of findings.

1.8.1. Communication models

The emphasis on communication models in this section aligns with objective one in the study. The authors of this article assert that the Shannon and Weaver model of communication (see Shannon & Weaver, 1964) provides a strong theoretical foundation for the understanding of human communication. While critics of the model point to its inability to explain the human communication beyond the telephony industry (Bowman & Targowski, 1987), the idea of blended librarianship mediated by learning management systems such as Blackboard makes the model relevant. It was found that the concept of information source can be useful as a frame for librarians communicating library training to students in blended and remote learning environments (see also Goodell & Kessler, 2020; Graham, 2013; English, 2022; Lee, 2022; Mackay, 2022). Having said that, challenges and pitfalls relating to blended and remote learning should be considered (see also Cao et al., 2020; Lischer et al., 2021; Zhang et al., 2020). Since librarians in South African university libraries decide on the messages communicated for library training, they also pass as information sources. The authors suggest that librarians draw from the diversity of perspectives on communication to enhance library training in blended environments. Technology has evolved to a point where communication between librarians and students occurs across a multiplicity of platforms and modes (see also Lamey, 2018; Vailshery, 2021). Librarians should reskill and upskill to keep abreast with rapid technological developments in education and training.

1.8.2. Learning theories

The emphasis of learning theories in this section aligns with objective one and two in the article. The authors encourage librarians in South African university libraries to consider the findings of this article to reflect on their library training practices. Learning theories in a form of the three generations of pedagogy (see Anderson & Dron, 2011) are the bedrock of teaching, learning, and research activities in institutions of higher learning. What better way to improve on library training in blended environments than librarians in South African university libraries becoming pedagogically inclined? With the changes brought by the COVID-19 pandemic, the focus has shifted from the teacher to the students. Learning and Teaching Conferences in South African universities reiterate this point (University of the Free State, 2021). Thus, learner experience and librarians creating conditions for students to construct knowledge in a social and more connected environment (i.e., blended learning environments). Social learning theories (see also Bandura, 1977) can assist librarians develop meaningful tutorials and facilitate library training better. Communication models and learning theories can add value to library training when librarians exude some

form of authority.

1.8.3. Librarian's authority

The authors emphasize the librarian's authority as a cornerstone to progressive librarian-learner relationship in library training. This section aligns with objective three in the article. It was found that, librarian legitimacy (Graça et al., 2013; Esmaeili et al., 2015) and authority (see Association for College and Research Libraries, 2016) have relevance for communicating library training to students in South African institutions of higher learning. Lecturers' authority in a typical classroom is enhanced by the level of qualifications, and experience. Similarly, the authors contend that the authority of librarians can be enhanced by the level of qualifications, and experience. Continuous training and skills development can assist in this regard. The level of qualification can allow librarians to have an understanding on the psychology and behaviour of different library users during library training.

1.9. Future research direction

A major limitation of this article is the oversight of information literacy literature pertaining to the South African higher education context, particularly those that emphasize the need for critical information literacy (see for example, Mohamed, 2019). Other studies emphasize the use of the Association for College and Research Libraries *Framework for Information Literacy for Higher Education* for the South African context without adaptation to the local context (see Fullard, 2016). These studies were not included in the integrated literature review because they neither emphasize the need for localization of information literacy practice nor critique the ideological underpinnings of the concept of information literacy and its essentialist undertones (see also Searle, 2016). The authors opted to create their own typology of themes to highlight the scarcity of localized information literacy frameworks.

Our integrated literature review indicates that future research could identify concepts from theories, and models in the literature. To align with objective three in the article, the authors map the way for future research for the formulation of conceptual frameworks in this section. Conceptual frameworks are made up of theories and can also derive from the literature as well as the personal experience of the researcher (Eisenhart, 1991). Librarians in South African universities can add their personal experience to concepts derived from models and theories to formulate conceptual frameworks for library training. Importantly, universal models and theories can be adapted to suit the local context. Policies can differ from institution to institution. Future research should employ single and multiple case study research designs to formulate

frameworks on a case-by-case basis. Researchers should consider ethics related to the use of documentary evidence that points to the need for the reconceptualization of library training. Examples of documentary evidence could include but not limited to tutorials, email communication, study guides, and reports generated from learning management systems. Such documentary evidence can be used to supplement the content of this article towards a conceptual framework (s) for communicating library training in South African university libraries.

1.10. Conclusion

The article argues that academic librarians operate within the universe of teacher-learner relationships in library training initiatives, albeit unconsciously so. This makes library training in South African university libraries a mature topic needing reconceptualization. This article adopted an integrated approach in reviewing literature that could be useful for library training in South African university libraries. The integrated literature review drew insight from journal articles found in databases, books, and websites. The authors assessed, synthesise and critiqued available literature across various disciplines. The development of conceptual frameworks for library training require a comprehensive approach to ways of knowing in South African library practice. The authors encourage librarians in South African university libraries to think about the significance of frameworks for library training.

CRediT authorship contribution statement

Mahlaga J. Molepo: Conceptualization, Methodology, Software, Data curation, Writing – original draft, Visualization. **Sihle Blose:** Investigation, Validation, Conceptualization, Methodology, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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