11-2020

Cataloguing Education in the midst of the Coronavirus (COVID-19): The authors perspectives.

Madireng monyela
University of Limpopo, jane.monyela@ul.ac.za

Cataloguing Education in the midst of the Coronavirus (COVID-19): The authors perspectives.

Madireng Monyela

University of Limpopo

Jane.monyela@ul.ac.za

Madirengm@gmail.com

Abstract

The nature of cataloguing modules requires face-to-face interactions between lecturers and students for the explanation of concepts and the practical use of manuals and standards applied. Due to Covid-19 outbreak that led to lockdown in many countries and consequently to closure of the face to face universities, teaching and learning should be altered to continue with the university mandate. This paper investigated Cataloguing Education (CE) and suggest relevant approaches of CE outside the traditional classroom context. This research employed the qualitative approach grounded on documents/textual content analysis of literature and the experiences attained by the author. Findings revealed that cataloguing modules could be taught online. The study recommends the use of Open Educational Resources (OER), effective online teaching and virtual work integrated learning.

Keywords: Cataloguing Education, Cataloguing, Classification, Information Technologies, OERs, Online Teaching,

Introduction and Background

According to Snow and Hoffman (2015), cataloguing has been included in the library science curriculum since the beginning of the discipline in the late nineteenth century. It is also one of the most challenging courses to teach. Cataloguing is a complex subject and learning cataloguing can be difficult because students are introduced to a wealth of complex content. Students learn not only cataloguing theory, but also how to apply cataloguing standards to create descriptive records. Unlike other courses in the curriculum, cataloguing instructors often deal with student anxiety about taking cataloguing. Some students enter the classroom convinced they will hate cataloguing and will not pass the course. Cataloguing educators often have to be cheerleaders, presenting cataloguing as fun and doable to convince students they can succeed in the course (Snow and Hoffman, 2015). Iwe (2005) also observed that since library science education started in Nigeria about half a century ago, cataloguing has been regarded as a core subject in the curriculum. Furthermore, Nwankwo, Ndanwu and Ezejipofor (2019) Opined that cataloguing and classification occupies a unique position in the tertiary institution curriculum. According to Monyela (2019) there are four processes in the cataloguing workflow that completes the cataloguing modules, namely descriptive cataloguing, authority control, subject cataloguing and classification.

Descriptive cataloguing according to Lazarinis (2014), deals with description of resources, identifying all its features and the determination of access points (names of persons or corporate bodies) considered responsible for or associated with a resource, or any index term that could help a user to locate an information source when searching the catalogue. The intention of this task is to identify the work and distinguish it from other works by the same author, or with the same title or on the same subject. The features are then represented in the catalogue using standardised tools. The other process is called authority control. Taylor (1984) defines authority control as the process of maintaining consistency in a bibliographic file or catalogue through reference to an authority file. The purpose of authority control, according to Tillet (1989), is to ensure that the works of a creator are grouped together. The cataloguer needs to determine whether the name has been used before in the catalogue, verify that the name has been established correctly, and adjust if required. The same form must be used throughout the catalogue using the standardized tools, to ensure consistency. Then subject cataloguing. Subject cataloguing is divided into subject analysis and classification. Subject analysis deals with the creation and representation of subject terms in the catalogue (Lazarinis, 2014). Classification on the other hand deals with the allocation of specific notations that should serve as a shelving device.

Teaching all these processes requires the use of cataloguing standards that are recognised internationally such as RDA/ AACR, LCSH or other subject heading standards, DDC or other classification schemes and MARC coding scheme for online catalogues. These courses are offered at undergraduate and postgraduate levels in many universities across the globe. For example, at the University of Wisconsin-Milwaukee, they are offered at masters' level (Miller et al., 2012) and in Germany, they are offered at undergraduate and postgraduate levels (Münnich et al., 2006). In the USA, most library schools taught cataloguing and classification only at master's level. In Brazil, all LIS undergraduate schools (as well as the other Mercosul schools) had classification and cataloguing as mandatory disciplines in their curricula (Ocholla et al.,2015). In South Africa, they are offered at undergraduate and postgraduate levels (Ocholla et al.,2015; Ocholla and Ocholla, 2014), the same is the case in Botswana and Nigeria (Kgosiemang, 2005; Iwe, 2005). Snow, Hoffman, McCurry and Sandy (2018) observed that even though general information organisation courses are still required by most LIS programmes, cataloguing and metadata courses that include a balance of theory and practice are often "buried" as electives within LIS school curricula. Ogunniyi and Nwalo (2016) indicated that undergraduates are known to have poor achievement in cataloguing and classification courses. Al Hijji & Fadlallah, (2013) opined that, a variety of methods can be used for cataloguing education but teaching both theory and practice is widely recommended.

Problem Statement

COVID-19 has rapidly spread across the globe, reaching every continent. While Africa was among the last regions the virus touched, with the first case of COVID-19 reported in Egypt on February 14, 2020, it had more than 34,000 confirmed cases as of the end of April (BBC Coronavirus in Africa cited in Skyere et al., 2020). South Africa announced its first case of COVID-19 on March 5, 2020 and as of April it had one of the highest case incidences on the continent (Sekyere et. al., 2020). President Cyril Ramaphosa and his government have taken, including declaring a national state of disaster and other measures to effectively respond to, contain, and curb the spread of the virus. Universities lockdown and social distancing were some of the measures taken by the government to curb the spread of the virus. Thus affected

teaching and learning in universities, CE was not exempted. Furthermore, researchers such as Ogunniyi and Nwalo (2016); Rafiu and Nwalo (2016); Nwankwo, Ndanwu and Ezejipofor (2019); Rafiu (2020) reported poor performance of cataloguing students. Gorman (2002) argues that cataloguing education should be the centre piece of the LIS curricula, as it is vital to all library science students, not just to those who wish to be cataloguers. Hence the need to investigate cataloguing education during Covid 19 pandemic and to suggest possible strategies of teaching cataloguing modules outside the traditional classroom setup going forward even beyond the pandemic.

Research Objective

The following objective guided the study

- To determine the strategies of teaching cataloguing modules effectively during and beyond the pandemic.

Literature Review

Literature review was obtained from books, journals, theses, conference proceedings, databases and electronic resources.

Cataloguing education

Rafiu and Nwalo (2016) observed that careers in librarianship are incomplete without a deep knowledge of cataloguing and classification. Gourkova (2007) believes, the cataloguing librarians have been the cornerstone of library services for centuries. The quality of their education highly influences their ability to effectively deal with the versatile challenges in the demanding field of knowledge management. Ocholla et al. (2015) carried out a study on cataloguing and classification education and training in library and information science/ studies in South Africa, Brazil and the USA. Their findings indicated that US respondents to some extent agreed that cataloguing and classification should be available to students. Most of them suggested it be an elective rather than a required course. In Brazil, information processing, including classification, indexing, abstracting, cataloguing and information retrieval, was believed to be the core of LIS education and constitutes an average of 25% of the hours of the total library course (in accordance with the Mercosul LIS educational agreements). Agreement on this basic concept rests on the relationship between the role of information science as a theoretical domain supporting the practical information domains like archival science, library science, as well as museology. All the respondents professed that classification and cataloguing teaching in library schools was very essential, but also considered the need for changes and adaptations to fit new patrons' needs, including the need to offer technological empowerment to librarians and patrons/ clients. The respondents from eight LIS schools offering Cataloguing and Classification Education (CCE) in South Africa considered cataloguing and classification to be a core LIS course; the backbone of librarianship's professional qualification; a course that supports knowledge of library information, reference and interlibrary loan services; extremely useful for the critical analysis and synthesis of a library collection by knowledge domains/ structures for effective information services; and essential for the organisation of knowledge in libraries. Ocholla et al.'s (2015) study also revealed a strong common core of concepts covered in the CCE in the three countries surveyed such as AACR2; abstracting; authority control; bibliographic control; bibliographic description; cataloguing: theory, process, tools,

manual, computerised, online; classification: theory, history, schemes, processes, policies, practical, DDC; LCC; UDC; descriptive cataloguing; Dublin Core; indexing; information retrieval; LCSH; library catalogues; MARC 21; bibliographic metadata; subject organisation and access; and thesaurus construction. Furthermore, their study found commonalities of pedagogical approach across the countries' studies, which were mainly through lectures, exercises, workshops, projects and limited online. A similar study of Cataloguing and Classification Education (CCE) and training in Library and Information Science/Studies departments in South Africa by Ocholla and Ocholla (2014) found that cataloguing courses were taught mainly through lectures and manual exercises. Other methods include group discussions, practical and limited online assignments, workshops, seminars, projects, case studies, and quizzes. Furthermore, it was reported that, in Brazil, lectures, exercises and discussions based on previous readings were the most common teaching strategies. US courses were also taught predominantly with lectures and exercises, but the exercises were more likely to be online. Small group work was also common. Nearly half of respondents taught onsite face-to-face but as many taught online or in some other distance format in which the instructor and student interacted through ICT. The challenges experienced in CCE in the countries surveyed by Ocholla et al. (2015) were similar and included students lacking knowledge in the case of South Africa. Students' lack of critical thinking seemed to be a challenge for both countries surveyed. In the USA, the results of students did not have an interest in learning the theory of cataloguing and classification.

Students indicated that they needed individual attention in US and Brazil. In language concerns, the USA was not affected perhaps because the medium of instruction is their language, and the linguistics and terminology used in the international cataloguing standards is in their spoken language, Brazil respondents indicated that there is a need for more instructional materials in Portuguese. South Africa also had concerns with the language used as medium of instruction in CCE, it was also reported that there were not enough teaching tools in both countries, not enough online work was reported in South Africa and US, students lacked interest in reading materials. The study suggested the following possible solutions to CCE education (more practical exercises, small group work, individual consultations, more computer resources). In another study, Mahlatji, Maphopha and Dikotla (2016) investigated teaching and learning of classification module: experiences at University of Limpopo (UL) and found challenges related to lack of skills in interpreting DDC instructions and concluded that the limited English proficiency might also lead to the situation. Normore (2012) argued that, teaching cataloguing requires instructors to present and integrate information about the variety and complexity of the field while providing adequate theoretical foundation for practice. Al Hijji (2012) observed that, theory versus practice had appeared as an issue for argument in cataloguing and classification education literature over the years. Olson (1997) further observed that, both educators and professionals indicated lack of theory and lack of practice as weaknesses of cataloguing education. Rafiu and Nwalo (2016) study of effect of English language proficiency on students' performance in cataloguing and classification(CC) courses in polytechnic based library schools in Nigeria found poor academic achievements on cataloguing and classification courses and further revealed that English language proficiency had a significant correlation with performance in CC courses. Rafiu (2020) found decline in the academic performance of students and further revealed that student's attitude had a significance correlation with

performance in CC courses. Mahlatji, Maphopha and Dikotla (2016) found poor performance, low students output, negative perceptions and prejudices among students. Moreover, lecture method was the mostly used teaching method in classification. Nwankwo, Ndanwu and Ezejipofor (2019) observed that, in spite of the importance and popularity of cataloguing among Nigerian cataloguing students, academic achievement at tertiary institution level has been poor. Ogunrobi (2016) pointed out that most cataloguing lectures still rely mostly on the traditional method for imparting knowledge. Nwankwo, Ndanwu and Ezejipofor (2019; Anyanwu and Iwuamadi (2015) observed that in a lecture approach, the teacher remains the primary provider of information and facts for learning. Clack (1993) stressed the need for cataloguing teachers to be innovative in their teaching strategies and methodologies to support active learning strategies, with a "mix" of pedagogical approaches to foster student involvement in their learning. Preminger et al. (2020: 128) stated that, "the Bachelor curriculum at Oslo Metropolitan University has in recent years "lifted" the perspective of its former "cataloguing" education away from "handcraft" into understanding of metadata practice in context, particularly involving more formats/rule-sets and types of description".

Snow (2019) emphasised for educators to improve their teaching ability in order to more effectively impart the importance of information organization to all library and information science students. Miller et al. (2012) provide innovative ways of teaching cataloguing and classification through online cataloguing education at the University of Wisconsin Milwaukee (UWM) that is quite novel and exciting. They indicated that at UWM, all cataloguing courses are offered online. When conducting online lessons, the instructor explains details of catalogue record creation step by step on a black or white board while students watch and listen in an effort to connect raw data from an item being catalogued with a mountain of complex rules and coding. It is also imperative for students to visualize the structure of a catalogue and the composition of a catalogue record. Multimedia presentation of this process is no doubt critically linked to the success of online cataloguing classes. Additionally, instructors need to introduce students to a host of cataloguing tools, most of which have become available online in recent years such as RDA, MARC 21, LCSH, Web Dewey to name a few.

Pedagogically, UWM instructors believed that application of multimedia to delivering course contents online not only makes lectures easier to understand but also helps imitate the rich classroom experience. Furthermore, (Miller et al. :114) emphasised that "not all instructors at UWM take the same approach or use the same content creation tools. We focus primarily on what needs to be achieved in terms of contents and pedagogy and then what technology to apply to achieve the objectives, some of us are especially fond of flowcharts. At the beginning of a class, we use a flowchart to discuss various aspects in the cataloguing process and give students a sense of the cataloguing workflow. flowcharts are prepared and, at the same time, explained in a video lecture, Since Dewey number building is particularly challenging to many students. The instructor suggests that students pick another example, follow the flowchart to build its number, and explain it in the discussion area. Such combined use of a visual aid, hands-on practice, and discussion seems to be most effective". Miler et al. further assert that, having no confinement of a physical classroom also offered opportunities for fresh teaching ideas. For example, the instructor may use a captured screen to demonstrate the display of

search results in an online catalogue and then ask students to conduct the same search in another real online catalogue of their choice with a report of the observation back to the class. Some students even provide captured screens in their reports. Students are also encouraged to initiate a discussion with a captured screen or screens from an online catalogue or Web site. Again, multimedia approaches to online pedagogy are equally useful for online course exercises, assignments, and discussions. When teaching how to catalogue video recordings, for example, instructors may present students with a combination of PDF scans of the front and back of DVD and Blu-ray containers and accompanying material and screen capture videos, walking students through the steps of the descriptive cataloguing process, including what to look for on the various sources of information. Instructors can capture the actual opening and closing credits of a film while playing it in a computer DVD player, enabling instructors to explain vocally while graphically showing students how to take what appears on the screen and translate that information into a MARC catalogue record following AACR2 rules for video recordings cataloguing. Screen capture software also provides the opportunity to give both graphical and auditory general feedback on course exercises and assignments, rather than relying on text alone. This kind of feedback is especially useful for exercises that entail working with non-textual resources, online cataloguing tools, and the visuals of a MARC catalogue record. Online course discussions typically take place in e-mail discussion forums internal to the course site. Instructors usually respond textually to student discussion messages and threads. An alternative, useful in some instances, is to reply to a group of messages or to an especially complex or thorny discussion thread, by posting a video and audio response to the discussion thread, including graphical illustrations of the instructor's points. Moreover, Laurillard (2002) observed that a lecture on cataloguing could be delivered through two types of files: a visual presentation file (i.e., slides) and an audio file to take students through what is depicted in the presentation file.

The other method that was identified by Nwankwo, Ndanwu and Ezejiofor (2019) is called Just In Time Teaching (JITT) and the modified lecture method. JITT approach was developed by Gregor Novak and Andy Gavrin at Indiana University–Purdue University Indianapolis (IUPUI) and Evelyn Patterson at the U.S. Air Force Academy. The group has collaborated with Wolfgang Christian at Davidson College to create simulations that can be used over the web. The method is a synergistic curriculum model that combines modified lectures, group discussion problem solving, and web technology. Just-in-Time- teaching and learning method was designed to promote the use of class time for more active learning. It is an innovative method that enables faculty to increase interactivity in the classroom and engage students in learning by creating a feedback loop between students' work at home and the classroom setting, time on task improved in both quantity and quality. (Gavrin (2006). Just-in-time teaching is a teaching and learning method that consists of two components: classroom activities that promote active learning and World Wide Web resources that are used to enhance the classroom component. JITT involves a fusion of high-tech and low tech elements. The high tech element involves the use of the World Wide Web to deliver curricular materials and to manage communication among students in the school environment. The low –tech element requires maintenance of a classroom environment by the school which emphasizes personal instructor-student and student- student interaction. JITT relies on a feedback loop between the web-based learning materials and the classroom (Novak et al 1999). The use of JITT as a teaching method

can be as follows: 1) Students may be instructed to prepare for next class by reading from the textbook or materials that will be covered in the next class OR Lecturers may decide to give students short assignments in between classes which will focus on materials that will be covered in the next class. 2) The students can also be giving exercises which may involve the combination of multiple choice and short answer/essay questions, reading of textbook or article, to complete experiment, or watch a video. The students completed assignment can be submitted or delivered to the lecture few hours before the commencement of the class for the day. 3) The students can do the assignments using textbook or other resources posted to the web. 4) The students JITT answers or responses will be reviewed by the lecturer prior to the class. The lecturer will use the JITT responses to organize, create an interactive classroom environment and modify the forth coming lecture class-hence the just-in-time label. Online quizzes at the end of each lesson could also be used to determine whether the student could proceed to the next lesson. Modified Lecture approach according to Diamantes and Williams (1999) includes lecture timing, learning styles, and teacher empathy. It is a lecture mixed with student activity, individual or small group work. Nwankwo, Ndanwu and Ezejiofor (2019) investigated the effect of just-in time on the academic achievement and interest of students offering cataloguing and classification course in Anambra State and found that Just-in-time-lecture method led to increase in academic retention of cataloguing and classification students exposed to it than students who are not exposed to it. The study recommended that Library and Information Science lecturers should use the just-in-time teaching method and strategies for effective teaching of cataloguing and classification to enhance better academic achievement of students and their retention in cataloguing and classification.

Methodology

This paper applied the qualitative research approach based on document content analysis extracted from different information sources. Taylor, (2007) argue that the qualitative research approach is significant in addressing contextual studies of this nature. The qualitative research approach means that literature could be interpreted based on the search of the researcher on key concepts of the chosen topic. Key concepts used in this study includes, cataloguing education, cataloguing and classification teaching and learning. This was done to have a better understanding of cataloguing education in different countries. These variables were discussed in different segments in the literature review in this paper.

Recommendations

Based on the literature reviewed and the conclusion thereof, the following recommendations were made:

- Open Educational Resources (OER)

OER normally supports educators with browsing latest educational matters, such as videos, podcasts, text and other digital assets, open resources kindle for pedagogical innovations, and creating new forms for effective teaching (Gerald and Mary, 2020). The development and promotion of open educational resources was motivated by a desire to provide an alternate or enhanced educational paradigm. Cataloguing education requires the use of cataloguing standards that are recognised internationally. The use of OER would help with resource sharing and skill transferring since facilitators will learn from each other in terms of content and the application of cataloguing standards in pedagogy. Mishra (2017) opined that while open

textbooks are becoming more and more multimedia based giving learners rich learning experiences, a better use of OER is to create a situation in which both teachers and learners are engaged in OER-based learning. Open resources have the potential to facilitate new styles of teaching and learning, therefore OER environment will have a future in which all spheres of education will be accessed only in online for free of cost and the learners will develop course, according to the vibrant and varied pool of open content. In the OER environment, facilitators can select individual resources they prefer and restructure those resources in a specific way that assures wide diversity of learning environments. Gerald and Mary (2020) indicated the following opportunities for OERs: Provides a long-term conceptual framework for alliances in creation, sharing and provision of educational resources based on strong emphasis of reusability; Promotes digital competence for the knowledge society beyond basic ICT skills through making available tools and content that allow learners to develop critical thinking and creativity; Enriches pool of resources (content & tools) for innovating curricula, teaching & learning practices, including resources from information agencies, libraries and cultural organizations; Leads to a leverage in the educational quality of content through quality control, feedback and updates in the content and networks; Provide learning communities such as teachers and learners with easy-to-use tools to set up collaborative learning climate (e.g. Wikis /Weblogs, social network, content feeds, etc.). Digital technologies have made it possible to share works anywhere, anytime, while open licensing frameworks allows this kind of sharing to be carried out legally. Cataloguing lecturers could develop and share OERs to improve the quality of cataloguing education and students pass rate.

- Online teaching and learning

CE should be carried out through Learning Management System (LMS) such as Blackboard Ultra, Moodle etc., where by the facilitator is able to engage on live video or audio with students. Podcasts and content videos and recorded lecture notes may also be used to facilitate CE using asynchronous instructions where the students can watch and listen to instructions at their convenient time. Most LMS includes tools that can be used in online teaching and learning such as to post contents, discussion forums, group students, online lessons, assessments and more. JITT is another method that can be used for CE. Nwankwo, Ndanwu and Ezejipofor (2019 found that JITT method had significant effect on students' achievement in cataloguing and classification as those taught with it were better off in their mean gain than those taught without it.

- Virtual work integrated learning

Work integrated learning (WIL) assists with the assimilation of theory and practice, ultimately producing job ready graduates with the capacity to engage effectively within their chosen work environment (Maund et al., 2017). CE requires students to carryout practical work in the library to understand and learn more on the cataloguing standards and actually create catalogue records for library users. Mazhar and Arain (2015) observed that although WIL programmes may provide an experiential learning experience in a professional environment, there are a number of obstacles and barriers such as industrial risk and cohort characteristics that could impact upon WIL opportunities. Industrial risk during COVID 19 outbreak is a serious obstacle. With regard to cohorts, due to the big numbers of students both on campus and distance students, cataloguing departments in libraries may not be able to host all students and give them enough practical experience, especially because generally cataloguing departments have fewer

personnel (Monyela, 2019). Therefore, Maund et al. (2017) observed that with virtual learning environments that are becoming increasingly popular within the educational setting as a mechanism by which to provide a simulated real world experience for students overcoming many of the obstacles/barriers facing traditional on-site experiences such as those describe above, the students can get adequate experiential learning.

Concluding remarks

The effect of COVID-19 outbreak should be used by cataloguing lecturers and Library and Information Science (LIS) schools as an opportunity to reassess their teaching and learning models for effective teaching and learning beyond the traditional face to face classroom setup.

References

Al Hijji, K. Z. (2012). Cataloguing and classification education in Gulf Cooperation Council (GCC) countries. *Cataloging & classification quarterly*, 50(4), 276-292.

Al Hijji, K. Z., & Fadlallah, O. S. (2013). Theory versus Practice in Cataloging Education in Oman: Students' Perspectives. *Cataloging & Classification Quarterly*, 51(8), 929-944

Anyanwu, S. U., & Iwuamadi, F. N. (2015). Student-centered teaching and learning in higher education: Transition from theory to practice in Nigeria. *International Journal of Education and Research,* 3(8), 349-358.

Clack, D.H. (1993) "Education for Cataloging: A Symposium Paper," *Cataloging & Classification Quarterly*, 16 (3): 27-37.

Diamantes, T., & Williams, M. (1999). Using a game-format to teach national educational standards to aspiring school administrators. *Education*, 119(4): 727-727.

Gavrin, A. (2006). Just in time teaching. Available at: http://www.Researchgate.net/publication /229027852 just- in- time

Gerald, J. W. A., & Mary, A. J. B. L. (2020). Review on Open Educational Resources-Opportunities and Challenges. *Journal of Shanghai Jiaotong University*,16 (7):1079-1087.

Gorman, M. (2002). Why teach cataloguing and classification?. *Cataloging & Classification Quarterly,* 34(1-2), 1-13.

Gourkova, H. (2007). "Education for Library Cataloguing: International Perspectives", *Library Management,* 28 (6/7): 437-439. https://doi.org/10.1108/01435120710774567

Iwe, J. I. (2005). The Relevance of Cataloguing in a Library Science Curriculum in Cross River State of Nigeria in This Technological Age, *Cataloging & Classification Quarterly*, 41:2, 27-51, DOI: 10.1300/J104v41n02_03.

Kgosiemang, R. T. (2005). Education and training for cataloguing at the University of Botswana Library: an overview. *Cataloging & Classification Quarterly,* 41(2): 5-25.

Laurillard, D. (2002). *Rethinking University Teaching: A Conversational Framework for the Effective Use of Learning Technologies*, 2nd ed. London: Routledge Falmer.

Lazarinis, F. (2014). *Cataloguing and classification: An introduction to AACR2, RDA, DDC, LCC, LCSH and MARC 21 standards.* Amsterdam: Chandos Publishing.

Mahlatji, M., Maphopha, K and Dikotla, M. (2016) Teaching and learning of classification module: experiences at University of Limpopo (UL). Paper presented at: IFLA WLIC 2016 – Columbus, OH – Connections. Collaboration. Community in Session S12 - Classification and indexing. In: Subject Access: Unlimited Opportunities, 11-12 August 2016, Columbus, Ohio, USA.

Maund, K., Hilaire, T., Smith, S., Brewer, G., Lyneham, J., & Geale, S. (2017). Virtual learning platforms: assisting work integrated learning. Paper presented at AUBEA, 3 - 5 July 2016, RMIT university

Mazhar, N. and Arain, F. (2015). Leveraging on work integrated learning to enhance sustainable design practices in the construction industry. Procedia Engineering, 118, pp. 434-441.

Miller, S. J., Lee, H.-L., Olson, H. A., and Smiraglia, R. P. (2012). Online Cataloging Education at the University of Wisconsin–Milwaukee. *Cataloging & Classification Quarterly*, 50(23) 110-126.

Mishra, S. (2017). Open educational resources: removing barriers from within. *Distance education,* 38(3), 369-380.

Monyela. (2019). Cataloguing practices from creation to use: A study of Cape Town Metropolitan Libraries in Western Cape South Africa [PhD thesis]. University of Kwa Zulu Natal.

Münnich, M., Zotter-Straka, H. and Hauke, P. (2006), "Education for cataloguing and classification in Austria and Germany", *Cataloging & Classification Quarterly*, 41 (3-4): 193-225.

Normore, L. F. (2012). "Here be Dragons": A Wayfinding Approach to Teaching Cataloguing. *Cataloging & Classification Quarterly*, 50(23) 172-188.

Novak, G.M. Patterson, E. Garvin, A. & Christian, W. (1999). *Just-in-time teaching: Blending active learning with web technology.* Upper Saddle River: Prentice Hall.

Nwankwo, T. V., Ndanwu , A. I., & Ezejiofor , V. O. (2019). Effect of using "Just-In-Time Teaching (JITT)" Method and "Modified Lecture" Method in Teaching Cataloguing and Classification Courses in Anambra State. *Library Philosophy and Practice (e-journal),* 3040 :1-13 https://digitalcommons.unl.edu/libphilprac/3040

Ocholla, L., & Ocholla, D. (2014). Cataloguing and classification education (CCE) and training in library and information science/Studies departments in South Africa. *South African Journal of Libraries and Information Science,* 80(1), 1-7.

Ocholla, D. N., Ocholla, L., Olson, H. A., Glover, J. R., & Guimarães, J. A. (2015). A comparison of cataloguing and classification education (CCE) in library and information science in South Africa, Brazil and the USA (SOBUSA): an overview. *African Journal of Library, Archives & Information Science*, 25(1), 15-27.

Ogunniyi, S. O., & Nwalo, K.I.N. (2016). Time Allocation as Correlate of Undergraduates' Academic Achievement in Cataloguing and Classification in Library Schools in Southern Nigeria. *Open Access Library Journal,* 3 (1): 1-10.

Ogunrobi, T. T. (2016). *Successful cataloguing and classification training practice- A Librarian's Guide*. Calabar: Black and Co. Publishing.

Olson, H. A. (1997). Thinking professionals: teaching critical cataloguing. *Technical services quarterly,* 15(1-2): 51-66.

Preminger, M., Rype, I., Ådland, M. K., Massey, D., & Tallerås, K. (2020). The Public Library Metadata Landscape, the Case of Norway 2017–2018. *Cataloging & Classification Quarterly,* 58(2), 127-148.

Rafiu, J., & Nwalo, K. I. N. (2016). Effect of English Language proficiency on students' performance in cataloguing and classification courses in polytechnic-based library schools in Nigeria. *International Journal of Library and Information Science*, 8(6), 54-61.

Rafiu, J. (2020). The Effect of Attitude on Student's Academic Performance in Cataloguing and Classification Course in Nigerian Polytechnics. In Proceedings of the 2020 The 3rd International Conference on Information Science and System (pp. 198-203).

Sekyere, E., Bohler-Muller, N., Hongoro, C., Makoae, M. (2020). The Impact of COVID-19

in South Africa. Wilson Centre. Africa Program Occasional Paper. www.wilsoncenter.org/africa

Snow, K. (2019). Shifting Sands and the Prophet's Dream: Exploring the Future of Information Organization Education*, Journal of Education for Library and Information Science,* 60 (2): 139-151

Snow, K., & Hoffman, G. L. (2015). What makes an effective cataloging course? A study of the factors that promote learning. *Library Resources & Technical Services*, 59(4), 187-199.

Snow, K., Hoffman, G.L., McCourry, M. and Sandy, H.M. (2018), "Phoenix or Dodo? Re-Envisioning Cataloging Education", Percell, J., Sarin, L.C., Jaeger, P.T. and Bertot, J.C. (Ed.) Re-envisioning the MLS: Perspectives on the Future of Library and Information Science Education (Advances in Librarianship, Vol. 44B), Emerald Publishing Limited, pp. 227-239. https://doi.org/10.1108/S0065-28302018000044B013

Taylor, A. G. (1984). Authority files in online catalogs: An investigation of their value.

Cataloging & Classification Quarterly, 4(3): 1-17.

Taylor, B. (2007). Qualitative critical methodologies and post-modern influences. In B. Taylor, S. Kermode, & K. Roberts (Eds.), Research in nursing and health care: Evidence for practice (3rd ed., pp. 236–329). Nelson Australia.

Tillett, B. B. (1989). Considerations for authority control in the online environment. In: B. B.Tillet (ed). Authority control in the online environment: considerations and practices.

New York: Haworth Press: 1-11.