



Research Article

Conceptualization and Practice of Information Literacy Pedagogy at Universities in Kenya

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Abstract

Objective – The aim of this study is to examine the conceptualization and pedagogical approaches being used in Kenyan universities to teach and learn information literacy to determine if they are effective in addressing the information needs of the 21st century. The findings of this study will act as a guide to educational stakeholders in the design, review, and implementation of the information literacy curriculum. The findings will also create awareness

among librarians of the diverse concepts in information literacy and hopefully inform their practice when delivering information literacy instruction. Additionally, future researchers can leverage the insights garnered from this study to advance their own works, thereby contributing to the ongoing growth of knowledge in this field.

Methods – This study employed descriptive research design to collect qualitative data from the webpages of seven universities that were purposively selected: three being private universities and four were public universities. The seven academic libraries had an active online presence and adequate documentation of information literacy. The data were analyzed using thematic analysis.

Results – The research findings show a lack of consistency in the conceptualization of information literacy. In addition, the findings demonstrate a link between information literacy conceptualization and practice. Many of the online tutorials and information literacy documentations failed to address all the aspects of information literacy.

Conclusion – In order to effectively address 21st century information needs, academic libraries should reevaluate their conceptualization of information literacy. This should be followed by a comprehensive evaluation of their information literacy instruction to ensure they cover all aspects of information literacy. It is essential for these libraries to provide information literacy instruction to students throughout their academic journey rather than just focusing on first-year students. Moreover, structured assessments of students should be implemented to gain feedback on the effectiveness of these instruction programs.

Background to the Study

Information literacy has been presented as the foundation of lifelong learning, meaning it is a prerequisite skill for everyone to fully participate in society (United Nations Educational, Scientific and Cultural Organization [UNESCO] et al., 2005). Information literate people have higher success rates in academics, workplaces, and socially, as demonstrated by previous research (Ganesan & Gunasekaran, 2022; Nierenberg et al., 2021; Zhang et al., 2010). A report by the World Economic Forum (2015) on 21st century workplace skills listed critical thinking, problem solving, and information literacy skills among the most significant skills needed for success in the workplace.

Despite the recognized value of information literacy, there are varying definitions and interpretations of what constitutes information literacy. While the term *literacy* has existed for close to two centuries, critical interrogation of the term began in the mid-20th century. The argument then was that defining literacy as an ability to understand and interpret text left out many emerging forms of communication, such as electronic communication and mainstream media (Leaning, 2019). By the 1980s new forms of literacies had emerged, among them media literacy, visual literacy, computer literacy, and information literacy. The conceptualization of information literacy at that time was as a tool that could be used to equip learners with a skillset for effective utilization of information resources (Whitworth, 2014).

The analogy in all the new forms of literacy is that they aimed to address a skill gap occasioned by new development in technology. Information literacy differed from the other forms of literacies in that it sought (and still seeks) to relate the impact of technological development with the ability to effectively utilize information resources (Whitworth, 2014). Therefore, it is important to emphasize that information

literacy should not be narrowly construed as acquiring technological skills, but rather as the advancement of competencies for effectively using information resources, irrespective of the specific technology employed for information storage and dissemination.

In subsequent years, information literacy saw new developments in its conceptualization with the most significant being the establishment of the American Library Association's (ALA) Presidential Committee on Information Literacy in the United States of America (USA) in 1989, which was tasked with defining information literacy and recommending a model for its integration into the U.S. education system (ALA, 1989). The final report conceptualized information literacy as a set of skills that enables a person to know when information is needed, identify what type of information is needed to solve the problem at hand, access the information and evaluate it, organize the information, and use the information to solve the problem. The report identified libraries and librarians as key resources in the delivery of the information literacy curriculum. Attention is drawn to the fact that this approach relies heavily on the ability of a person to exhibit the skills identified and therefore can be termed an outcome-based pedagogical approach.

Tewell (2015) noted that the USA's understanding of information literacy heavily influenced subsequent concepts and practice of information literacy. For example, Bruce (1997) retained the same perspective of information literacy and only introduced a different pedagogical approach that focused on how people experience information rather than centering on the outcomes. Bruce's method was widely adopted by universities around the world by shifting their information literacy pedagogy towards cognitive approach (Lloyd, 2010). In the United Kingdom (UK), the Society of College, National and University Libraries (SCONUL) refined the ALA's 1989 concept of information literacy to include the ability to create new knowledge as the seventh skill of an information literate person (SCONUL Advisory Committee on Information Literacy, 1999).

In subsequent years the conceptualization of information literacy was revised. *The Alexandria Proclamation on Information Literacy and Lifelong Learning* conceptualized information literacy as the foundation of lifelong learning that enables people to access, evaluate, and use information; create new knowledge; and promote social inclusion (UNESCO et al., 2005). The interpretation of information literacy as a life goal expresses the desire to take information literacy beyond educational institutions. The Association of College and Research Libraries' (ACRL, 2015) *Framework for Information Literacy for Higher Education* represented a philosophical shift away from skills or outcomes and instead centred threshold concepts and the role of information in society. It introduced aspects of ethics and effective communication, which were new to definitions of information literacy. With the rapid development in information communication technology (ICT) and the Internet, the amount of information available continues to grow at an accelerated rate and information literacy continues to be refocused and realigned with the new information landscape (Stebbing et al., 2019).

In its present form, information literacy remains a complex subject that is difficult to define. Education stakeholders have conceptualized information literacy differently. Julien et al. (2018), in their survey on information literacy and teaching methodologies in American academic libraries, found that information literacy was conceptualized in its narrowest sense to mean a set of skills for effective use of technology and electronic information resources. Stebbing et al. (2019), in their study on the perceptions of faculty about information literacy in Anglia Ruskin University in the UK, noted that faculty described effective

use of technology to access, use, and communicate information as the primary perception of information literacy.

Despite the recognized value of information literacy, development of effective information literacy pedagogy remains a key challenge in higher education partly due to conflicting conceptualization as to what constitutes information literacy. The aim of this study is to examine the conceptualization and the pedagogical approaches being used in Kenyan universities to teach and learn information literacy to determine if they are effective in addressing the information needs of the 21st century.

Problem Statement

An analysis of the literature reveals that information literacy has been conceptualized differently by different authors. For example, ACRL (2000) defined information literacy as a set of skills to recognize when information is needed and how to access, evaluate, and effectively use the information to solve a problem. *The Alexandria Proclamation on Information Literacy and Lifelong Learning* stated that information literacy is the basis of lifelong learning that enables people to access, evaluate, and use information; create new knowledge; and promote social inclusion (UNESCO et al., 2005). ACRL's (2015) *Framework for Information Literacy for Higher Education* introduced two new aspects: ethics and effective communication. Julien et al. (2018) determined that information literacy was conceptualized in its narrowest sense as a set of skills for effective use of technology and electronic information resources.

The variation in conceptualization of information literacy is expected to eventually lead to different pedagogical approaches in teaching and learning information literacy. The different concepts in information literacy also make it a complex discipline. The pedagogy of information literacy in universities has been characterized by one dominant concept of a skills-based approach as conceptualized by the ALA's (1989) Presidential Committee on Information Literacy.

In Kenya, information literacy has been integrated with the curriculum for first-year undergraduate programs as well as in post-graduate studies. The Kenyan Commission for University Education standards on information literacy envisioned collaboration between the faculty and the university library in teaching information literacy (CUE, 2014, pp. 105–106). While information literacy has always been considered the preserve of the academic library, there is little empirical evidence that the diverse conceptualizations of information literacy have influenced the professional practice of information literacy instruction in universities.

This study will attempt to fill this gap by examining the link between the different information literacy conceptualizations and the pedagogical approaches being used in Kenyan universities to teach and learn information literacy. The objectives of this study are:

1. to establish the dominant concepts of information literacy in Kenyan universities;
2. to determine which pedagogical methods are being used in teaching information literacy in Kenyan universities; and
3. to establish the relationship between conceptualization of information literacy, if any, and the pedagogical methods being used in teaching information literacy at Kenyan universities.

The significance of a study is in its worthiness to the current body of knowledge. The findings of this study will act as a guide to educational stakeholders in the design, review, and implementation of the information literacy curriculum. The findings will also create awareness among librarians on the diverse

concepts in information literacy and hopefully inform their practice when delivering information literacy instruction. Additionally, future researchers can leverage the insights garnered from this study to advance their own works, thereby contributing to the ongoing growth of knowledge in this field.

Methodology

This study adopted descriptive research design because it presented the opportunity to collect qualitative data.

Location of the Study

There are 69 public and private universities operating in Kenya (CUE, 2021); 37 are public while 32 are private. For the purpose of this study, seven universities were purposively selected, including three private universities and four public universities.

Target Population

The target population constituted academic library websites from the selected universities.

Sampling Technique and Sample Size

The study employed a purposive sampling technique to select seven academic libraries with an active online presence and adequate documentation of information literacy.

Data Analysis

Instructional tutorials and other documentation (library guides, policies and procedures, librarian and educator blogs, library workshops and events documentation, university policies and guidelines, university news and press releases, and information literacy guides provided through the academic libraries' websites) were analyzed using thematic analysis. A thematic analysis is a form of qualitative research that focuses on identifying passages of text interconnected by a common idea or theme, permitting the investigator to index the text into categories or groupings, consequently generating a pattern of thematic ideas (Gibbs, 2007, Chapter 4). The thematic analysis identifies themes in the data that are important or interesting and uses them to address the research problem.

There are various ways to approach thematic analysis. This study utilized Braun and Clarke's (2012) six-step framework of analysis, which has been described as the most effective method in that it offers a rich and practical framework for conducting a thematic analysis (Maguire and Delahunt, 2017). The first step involved familiarization with the documents, which was done by carefully reviewing the documents to gain a thorough understanding of their content and context. Subsequently, the codes were generated by identifying and labeling key features in the text. These codes were then organized and clustered into preliminary themes, revealing recurring patterns and concepts. The themes were further refined and redefined through a continuous process of reviewing and defining, ensuring that each theme accurately captured the essence of the data. Data reduction techniques were employed to condense similar codes into broader, more meaningful themes. In addition, the themes were named and defined to provide clear descriptions, permitting the lucidity.

Ethical Considerations

The purpose of ethical considerations in research is to warrant that no individual suffers from harmful effects due to research activities (Cooper & Schindler, 2003). This research endeavored to protect the anonymity and confidentiality of participating academic libraries by employing deidentification throughout the data collection process, analysis, and reporting stages.

Results

Through website review of the seven selected academic libraries, the following results were obtained. Each library had its own definition of information literacy, as detailed in Table 1. These libraries identified information literacy as a set of skills. The central concept was that information literacy is conceptualized as both a proficiency of procedural competencies and conceptual knowledge of when and how to apply those competencies when interacting with information.

Table 1
Definitions of Information Literacy

Library	Information Literacy Definition
Lib 01	<i>“Information literacy is a set of skills that enables one to be aware of how to engage with the world of information, how to find meaning in the information you discover, how to articulate what kind of information you require, how to use information ethically and how to evaluate information for credibility and authority.”</i>
Lib 02	<i>“Information literacy is the ability to find, evaluate, organize, use, and communicate information in all its various formats, most notably in situations requiring decision making, problem solving, or the acquisition of knowledge.”</i>
Lib 03	<i>“To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.”</i>
Lib 04	<i>“Information literacy is a set of skills that enables a person be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information to solve a problem.”</i>
Lib 05	<i>“Information literacy is a set of competencies that equip one with the ability to locate, evaluate, and use information effectively to become independent life-long learner.”</i>
Lib 06	<i>“Information literacy is a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.”</i>
Lib 07	<i>“Information literacy skills enable one to effectively use information technologies, such as personal computers, e-mail, software programs, the Internet and other information access tools. Other aspects of information literacy involve the evaluation of the information you obtain using the Internet and online electronic resources.”</i>

Conceptualization of Information Literacy

Through further analysis of documentation describing information literacy found on the academic libraries' websites, three categories of information literacy concepts were identified.

Information Literacy is a Process of Using Information Communication Technology (ICT) Tools

The emphasis in this concept is that information literacy aims to equip information users with skills to use ICT tools such as the Internet, web browsers, databases, and software such as those used off campus to access and organize information, especially electronic information sources. One of the selected academic library websites provided detailed documentation including online tutorials on scholarly databases with structural procedures on how to access the databases when on campus and also remotely. The documentation also provided a range of search techniques that users could employ while searching the scholarly databases. Users were also advised on the importance of evaluating information sources before using the information. Ethical issues such as plagiarism were also addressed.

The instruction program was also actualized through face-to-face information literacy instruction where users were invited to attend on scheduled dates. However, emphasis was placed on first-year students. Overall, the information literacy skills addressed included: locating information sources (focusing mostly on online scholarly databases); general online search strategies, including how to search the catalogue; evaluation of information sources; and ethical issues in information, especially plagiarism.

Information Literacy is a Set of Information Skills (Skills-Based Approach)

The skills-based approach as conceptualized by the ALA's (1989) Presidential Committee on Information Literacy in the USA was found to be the predominant concept. Five of the selected seven universities provided structured documentation addressing skill gaps on identifying information need, for example through analyzing the assignment or research topic; formulating research questions and keywords; locating information sources; applying search strategies including the use of Boolean operators; evaluating the information sources and content; and using the newly acquired information to generate new knowledge or solve a problem. Ethical issues such as proper citations and plagiarism were also addressed.

Information Literacy is a Library Usage Skill

On one of the selected academic library websites, content provided under their information literacy tab was mostly on how to access library resources. Detailed documentation was provided on the physical information sources available within the library, how to search the library catalogue, the layout and organization of the library, an overview of the library classification system in use, procedures for borrowing, library opening hours, and library rules and regulations. Brief documentation on citing and plagiarism was also provided. Ironically, there was no mention of online information sources despite a list of subscribed online scholarly databases appearing on the website. There was also no mention of information evaluation.

Practice of Information Literacy

This study investigated the practice of information literacy in academic libraries through instructional tutorials and other documentation.

Curriculum on Information Literacy

Analysis of the selected academic libraries revealed an unstructured curriculum on information literacy. Although most of the items on information literacy were not structured in an organized manner, there were tutorials and documents addressing all aspects of information literacy. For example, separate tutorials addressed access to physical resources and access to electronic resources; identification of information need and use of newly acquired information to solve a problem or create new knowledge were less well represented.

Delivery of Information Literacy Instruction

Analysis of the 41 online tutorials and information literacy guides obtained from the seven selected academic libraries showed that the goals of information literacy instruction were realized through two main approaches: (1) face-to-face instruction facilitated by a librarian or faculty member and (2) online tutorials. Of the seven academic libraries, five offered both face-to-face and online information literacy instruction. One library provided an information literacy module for students to download and read independently. For all instruction offered, there were clear learning outcomes. Ethical dimensions were mainly addressed separately with independent tutorials on citations and plagiarism.

Analysis of the available documentation on information literacy also suggests that information literacy was already integrated with the university curriculum; for example, reference was made to course names such as "Information Literacy and IT Skills," "Information Literacy Skills," and "Information Literacy and Digital Skills."

Assessment

Although most of the academic libraries were not explicit on assessment, the presence of quizzes in Lib 01, Lib 04, Lib 05, and Lib 07, as well as exercises in Lib 03, provided clues to gauging students' understanding of the information literacy concepts.

Collaboration Between Librarians and Faculty

In a student themed environment, there was clear evidence of collaboration between librarians and faculty in delivering information literacy skills. For example, Lib 03 had a common unit, "Information Literacy and IT Skills," where the students learned about search strategies. In Lib 06, librarians visited the common unit course "Information Literacy and Digital Skills" to facilitate learning about online search strategies and plagiarism. While in Lib 04, students in the course "Hospitality Research Methods" visited the library for guided instruction with a librarian on information sources for literature reviews.

Relationships Between Conceptions and Practice of Information Literacy

Analysis of the research findings suggests that deliberate effort to realize the articulated knowledge outcomes of information literacy through information literacy instruction was made. There is evidence

that learning outcomes were aligned with the definitions of information literacy, although emphasis was put on actions rather than skill acquisition. Two aspects of information literacy, (1) identification of information need and (2) effective use of information to create new knowledge or solve a problem, were not adequately covered in the tutorials or documentation provided. For example, only Lib 05 addressed specific ways students could use information to solve problems and generate new knowledge. Information literacy instruction at Lib 02 mainly centred on teaching learners how to access academic databases and electronic journals. Students were taught how to carry out research for their coursework, retrieve academic articles, and properly cite sources for their output. While these skills were vital for success in their classes, there was minimal emphasis on nurturing real-world skills. Another limitation was that the target audience was mostly first-year students.

Discussion

The research findings demonstrate a lack of consistency in the conceptualization of information literacy. The definitions as highlighted in Table 1 provide evidence of rich and diverse interpretations of information literacy as outlined in the problem statement. This reveals the dilemma that libraries face when designing information literacy instruction programs. Despite the diversity in information literacy conceptualization, generally information literacy is viewed as a continuum, a process with multiple stages from identifying information need to knowledge creation or problem solving.

The study findings have demonstrated a link between information literacy conceptualization and practice. For example, learning outcomes were directly linked to the definition of information literacy. This implies that any misconceptions of information literacy will automatically lead to ineffective information literacy pedagogy. It is therefore imperative for academic libraries to reevaluate their understanding of information literacy and align them with 21st century information needs.

Many of the online tutorials and information literacy documentation failed to address all aspects of information literacy, for example the aspect of using information gained to solve a problem at hand was not adequately addressed. Further, many focused on the application of information literacy within the academy. This suggests the need for a holistic approach toward information literacy, which may necessitate revision of information literacy instruction programs and require integrating more content to ensure that the skills acquired are applicable outside academia.

Assessment of students' understanding of information literacy concepts is another component that is lacking in the current practice. Assessment is critical in providing feedback on the effectiveness of the information literacy instruction programs.

Collaboration between librarians and faculty is highly encouraged, since faculty are deemed the "gatekeepers" of the classroom and are therefore likely to foster a conducive environment of continuous learning among students. Faculty, especially those teaching research methods, need to incorporate aspects of information literacy into their curriculum and partner with librarians to facilitate acquisition of information literacy skills.

The study faced challenges in data collection due to inactive and inadequate online documentation of information literacy in Kenyan academic libraries. To overcome this limitation, the researchers adopted purposive sampling to select a sample of academic libraries with robust online documentation of information literacy. Additionally, the study's scope was narrowed to seven universities out of 69 in Kenya, affecting the generalizability of findings.

Recommendations

In order to effectively address 21st century information needs, academic librarians should reevaluate their conceptualization of information literacy. This should be followed by a comprehensive appraisal of their information literacy instruction to ensure they cover all aspects of information literacy. It is essential for these libraries to provide information literacy instruction to students throughout their academic journey rather than just focusing on first-year students. Moreover, structured assessments of students should be implemented to gain feedback on the effectiveness of these instruction programs.

Author Contributions

Johnson Masinde: Background of the study, Problem statement, Methodology **Frankine Mugambi:** Results, Discussion **Daniel Wambiri:** Conclusion/Recommendations, Abstract. Writing – review & editing

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