

Information literacy research trend in Malawi: a guide for future research

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Abstract

Research on information literacy skills (IL) that people of a particular area needs or lack is important in informing quality IL programs. Moreover, creating a collective understanding on IL research is important in guiding researchers towards gaps they have to address. This study has attempted to do that by reviewing IL research that has been conducted in Malawi for a period of 10 years starting from 2008. The study has purposively selected 18 studies that have met requirements for inclusion. Following the analysis, the study has established that majority of IL research has been carried out at institutions of higher learning. The study has also revealed lack of focus on some categories of literacy. A number of IL challenges have also been reported in the studies reviewed. Based on the findings, the study finds it imperative for information science researchers in the country to conduct more IL studies so as to address the current problem of limited studies. The study also finds the need for libraries and information providers to come up with a research agenda that will take researchers' focus to IL imperative.

Keywords: Information literacy, IL research, IL competencies, IL challenges, Malawi

Introduction

Information is at the centre of the modern society. Every facet of human activity requires information as a key element for success. Evidently, for years, authors (Shramm, 1964; UNESCO, 1996; US Department of Transportation, 1998; Chen, 2004; Adorno & Cardia, 2013) have extensively written about the role of information in various aspects of life including rural development, human rights, gender, and academic advancement. In all, proper usage of information is directly linked to achieving academic success, attaining good governance, enhancing democracy and citizen participation, empowering communities, and fostering social change. Fortunately, thanks to Information and Communication Technologies (ICT), the production of this vital resource has surged over the past years. Apart from being fundamental in processes leading to the creation of information products such as books, journals, and web applications; ICTs play an integral role in the dissemination of, access to, and usage of this resource (UN, 2003; Josh, et al., 2013). Unfortunately, the increase in information production has led to what information professionals such as Ifijeh (2010), White (2009), and McIlroy (2010) call an information explosion; a state Ifijeh (2010) describes as "people drowning in too much information". On the same, Avery (2018) states that "information has destroyed our ecosystem, putting our own life, and the life of our fellow species, into peril". Jungwirth (2002) reported that by then, 1000 books were being published

per day while more journal titles are being added each year (Ifijeh, 2019); let alone the staggering numbers of online information sources.

As a result, having a society of individuals not only able to recognize information needs and locate information to meet them, but also able to use various information access tools and scrutinize information is of great importance in this age. For that reason, information literacy; which covers tool literacy, resource literacy, research literacy, and emerging technology literacy, among others, is a necessity for every citizen of the digital society (White, 2009; Sahu, 2015). It is therefore not surprising that the recognition of Information Literacy (IL) for its role in facilitating basically every human endeavour has grown. In fact, according to Scottish Information Literacy Project (2013), IL “is at the core of the curriculum for excellence and literacy across learning experiences and outcomes”. Through the Alexandria Proclamation, IL is considered as the beacon of the information society that reveals paths to development and prosperity (UNESCO, 2015; IFLA, 2015). Such is the value of IL that has seen various players collectively and individually make efforts to ensure that more people have what it takes to not just survive, but thrive in this information driven world. For instance, apart from proclaiming it a beacon of the information society, UNESCO has shown, in other ways, its commitment to ensuring that the world population is information literate and ready to partake in various activities of the information society. An example of such initiatives is the presentation, on its website, of an overview of IL resources available in various languages across the world. Likewise, to ensure that IL continues to develop across the globe, IFLA has an IL section which urges all types of libraries and information providers to join (IFLA, 2019). As part of its purpose, the section has come up with guidelines for information providers that intend to start IL programs.

In Malawi, just like many other countries, IL programmes mainly exists in educational institutions. Aspects of IL are offered as library user education, library orientation, and computer skills training with an intention of imparting students with skills that will enable them to become effective and efficient information seekers and users, mostly within their academic environments (Chipeta, Jacobs & Mostert, 2009). In most instances, as Baro and Keboh (2012) argue, IL programmes are championed by librarians with little support in terms of resources and attention from other sections of institutions. The rapid changes in information technologies, rising of strong preference of electronic information resources, and coming in of social media have led to changes in the perception of and attitude towards IL programmes (Malenga & Chigona, 2018). There is now a greater recognition for the need of IL skills and competencies and the role that librarians play in developing these skills. Actually, there is now a stronger commitment to IL from various stakeholders at various levels starting with IFLA at global level. However, for libraries and other IL stakeholders to effectively play this role, there is a need for well thought through policies and programs. The connection between the quality of a policy or program and research has been well documented (Davies, Nutley, & Smith, 2000; Barrie, 2012). Clearly, for IL policies and programs to be effective, their formulation must be informed by quality research findings. The problem in Malawi, however, is that research on IL is very limited such that it is difficult to get a general understanding on the country’s IL demands and attempts that have been made to meet them. As a result, this meta-analytical study to establish IL research trend in Malawi has been carried out. Specifically, the study’s objectives are; identifying settings of IL studies, establishing competencies looked at, and identifying challenges reported to influence IL initiatives in the country for the past ten years.

Literature Review

There are numerous IL studies conducted across the globe. Apart from their locations, these studies vary in various other ways. In terms of types of institutions targeted, some studies (e.g. Wallace, Shorten & Crookes, 2000; Julien & Barker, 2009; Probert, 2009; Rehman, 2009) have targeted schools, with most of them being conducted at secondary school level. Although studies with a similar focus in Africa are limited, those available (Tilvawala, Myers & Andrade, 2017; Sibanda, Mapenduka & Furusa, 2016; Adomi & Kpangban, 2010) are an indication of a realization of the importance of imparting these skills at an early stage of a person's life. Evidently, IL studies that target institutions of higher learning are available in abundance (e.g. Gross & Lotham, 2011; Emmett & Emde, 2007). The focus of majority of IL studies being on higher learning institutions can be attributed to the belief that it is at this level of education that students are made to do more independent learning hence the need for skills that will allow them to excel (Ranaweera, n.d). However, this notion is criticized by other researchers such as Barker and Julien (2008) who argue for the need to start equipping learners with IL skills earlier in their education lives. These researchers argue that leaving IL education to higher learning institutions denies school going children of an opportunity to become independent learners in the today's world where such an approach to education is encouraged and where children are faced with volumes of information from various sources. This informs that studies that focus on general populations (de Jagger & Nasimbeni, 2007; Eng, et al., 1998) are also very important because they help to highlight what the society at large lacks. Unfortunately, like schools, people who use information services such as those in public libraries have been minimally studied with regards to IL skills (Rader, 2002).

With regards to the target groups of IL studies, evidence shows that university and college students are the most targeted across the globe. For the same reason, majority of IL studies that have been conducted at institutions of higher education (Jessy, Shivananda & Mahabaleshwara, 2016; Pausch & Popp, 2000) have targeted students with an understanding that they are the ones that most need IL skills and the target of majority literacy programs (Carr, et al., 2011). Another explanation for making higher education students the main target of majority of IL studies is the advanced nature of library and information services in such institutions that make it important for students to be introduced properly to enable them to maximize their usage of resources available (Naik & Padmini, 2014). Considering the apparent need for information in all walks of life, the dearth in IL studies that have targeted sections of the society other than students exposes a clear gap. Unfortunately, even majority of IL guiding documents such as standards and frameworks (see IFLA, 2006; ACRL, 2016; ALA, 2006) have mainly focused on the "learner", making the less attention paid to other information users more apparent.

Information literacy has the following components; tool literacy, resource literacy, research literacy, emerging technology literacy, publishing literacy, critical literacy, and social-security literacy (Shapiro & Hughes, 1996; White, 2009; Discovery Education, 2015; DePietro, 2013). Therefore, for a similar reason, researchers who study IL in various settings should cover the same. The authors define these literacies as follows:

Tool literacy refers to someone's ability to fully take advantage of technological tools that support access to and usage of information. This

aspect of IL covers both ICT hardware and software including computers, mobile phones, and their associated programs.

Resource literacy is what traditional librarianship has been considering as IL. This is a person's ability to locate information from various sources. This literacy also covers people's ability to use information in various formats and forms. In other words, this form partly refers to information users' knowledge of the arrangement of information resources in a collection.

Social-structural literacy is the knowledge a person should have so as to understand the dynamics of information access, usage, sharing, and production in a particular setting e.g. an institution such as a university.

Publishing literacy refers to the ability to write, format, and bring to the public realm, new information. This includes a person's understanding of publishing in various arenas including electronic.

Critical literacy is a person's ability to process information accessed so as to identify strengths and weaknesses and determine its worthiness for its application in a situation.

Emerging technology literacy is related to tool literacy but different in the sense that it refers to a person's ability to perpetually adapt their tools' understanding to include new ones. For example, computers have been the main information access tools but now people use smartphones to do that. A person who is able to learn new tools has this type of literacy.

In all, according to these authors, a person with all these competencies is information literate. Therefore, where researchers carry out studies on IL and the competencies looked at can be used to group their studies under the aforementioned literacy categories. For instance, some studies (e.g. Lwehabura, 2016; Marialli, 2014) have focused on resource literacy while the one by (Cordell, 2013) addressed both resource and tool literacies. Other studies (Shwetha & Mallaiah, 2017; Hossain & Sormunen, 2019) on the other hand have focused on tool literacy and emerging technology literacy.

Designing and delivering of IL programs are based on a number of theoretical models and standards that have been developed by different theorists, professionals, and experts. The most significant examples are Seven Pillars model by United Kingdom's Society for College, Regional, and University Libraries (SCONUL, 2011); the ACRL IL competency standards for higher education developed by Association of College and Research Libraries of the United States (ACRL, 2000); Big6 Skills model by Eisenberg and Bob Berkowitz (1990), the Information Search Process by Kuhlthau (1993), the Research Process Model by Stripling and Pitts (1988), and the Pathways to Knowledge by Pappas and Tepe (2002). Majority of these models were designed to serve higher education settings of the developed world with little regard for African countries such as Malawi. However, amongst these, Seven Pillars model and ACRL's IL competency standards are the most popular.

Both Seven Pillars model and ACRL's IL Competency Standards have a hierarchical structure in which skills attainment progress from lower level or order to a higher level (Donnelly, Leva, Tobail & Kanellos, 2018). The Seven Pillar model has seven layers whilst ACRL's has five layers of IL competencies through which individuals move to attain a full

IL competency. Outcomes for each pillar or standard in Seven Pillars model and ACRL respectively are closely based on Blooms Taxonomy of education objective (Bilawar & Puja, 2017; Mokhtar & Majid, 2008). This means that IL instruction and pedagogy have to reflect the theoretical structure of these models and take into consideration other learning theories.

The reviewed literature has revealed various challenges faced by IL efforts as reported by various researchers. As a study by Link & Marz (2006) revealed, attitude towards literacy programs affects the transfer of important competencies to people who need them. In contrast, in a review of information literacy studies carried out over a period of ten years, Perin (2013) reported that, because of the lack of an IL research agenda with continuity and methodological problems in the available studies, a lot remains unknown with regards to what works and what does not. Varlejs, Stec, & Kwon (2013) attributed the insufficiency of IL skills among students involved in their study to insufficiency or poor quality of IL lessons offered that deprived learners of opportunities to understand what was been taught. Apart from that, a study by Martin (2011) shows that IL is influenced by the approach used to offer training (mandatory or voluntary), the availability of funds, the perceived benefit of IL training, and demographic characteristics of beneficiaries.

Methodology

Research Design

This study has used a meta-analysis design to analyze IL studies that have been carried out over a period of 10 years (from 2008-2018). Considering the nature of the objectives of this study; which focused on looking at what previous studies have done and found to identify underlying issues that require attention, this design was considered more suitable. The study has taken on a quantitative research approach to quantify studies based on their target population, study area, competencies focused on, and issues reported.

Study setting, population, and sampling

This study has been carried out to look at IL studies that have been carried out in Malawi over a period between 2008 and 2018. The study's broad approach was deemed necessary considering that its main aim was to establish a collective understanding of IL in the country through the eyes of researchers. To accomplish this task, the study targeted IL studies that have been carried out in the country during the 10 year period. For this purpose, all retrievable studies were part of this study's population. In other words, a purposive sampling method was used to identify studies that qualified for inclusion in the study. In total, the researchers were able to retrieve 18 IL studies conducted in the country over the specified period. This was a result of the limited number of such studies conducted during the period targeted.

Methods

Considering that this study was aimed at identifying IL trends as reported by researchers, this study focused on making observation from the retrieved studies. As such, the researchers employed a documentary review method to collect data from the retrieved studies. This method was used to identify study settings, competencies studied, and challenges reported in the studies with regards to IL education.

Findings

This section is about presentation and analysis of data obtained from sampled studies. The study involved 18 studies done in the areas of information literacy and ICT or digital skills in Malawi. The findings have been presented based on three themes formulated from the specific objectives of the study.

Settings of IL studies

The first specific objective of this study was to explore the contextual settings of IL studies in Malawi. To this end, the study wanted to establish areas where IL studies took place and their targeted populations. As part of this objective, the study has identified types of institutions that have been studied, the locations of the institutions (urban or rural), and the groups of people studied. This has been done so as to establish the attention paid by IL researchers to various information users in the country. The subsections that follow present findings on these areas.

Study areas

The researchers' first intention was to establish institutions or organizations where the selected studies were carried out. These were then categorized based on their nature (i.e. higher learning institutions [private, public], schools [secondary or primary], health institutions, and general community). The results are summarized in Table 1:

Table 1: Types of institutions involved in IL studies

Study area (n=18)	Frequency	Percentage
Public academic institution	10	55.5
Private academic Institution	4	22.2
Secondary schools	2	11
Primary school	2	11
Health	1	5.5

The findings show that IL researchers' attention has not been unevenly distributed with regards to target institution. As shown in Table 1, of the 18 studies involved, majority (77.7%) were set in higher learning institutions, with public ones taking the lion's share (55.5%). In contrast, the table shows that schools, health institutions, and the general community have been paid very little attention.

Location of study area

Apart from identifying the types of institutions/organizations where IL studies have been carried out, this paper has classified them based on their locations. The institutions have been categorized as urban and rural. The aim of this was to see the attention paid to information users in various geographical settings considering that one's geographical location can influence exposure to information resources and facilities, including IL education and studies. The findings on this are presented in table 2:

Table 2: Location of targeted areas

Location (n=18)	Frequency	%
Urban	6	33.3
Rural	3	16.6
Both	9	50
Total	18	100

The findings show that for the period observed, IL studies have been more concentrated in urban areas. As seen in Table 2, while only 6 (33%) of the studies were set in urban areas, the other 9 (50%) were conducted in both urban and rural areas hence making it a total of 15 (83.3%) studies that were conducted in such areas as compared to the collective 12 (66.6%) that were set in rural areas. Moreover, the fact that only 3 (16.6%) of the studies were set in rural areas confirms the insufficient attention paid to rural information users by IL researchers.

Targeted population

The study further wanted to find out the population targeted most by these studies. This was considered necessary because knowing institutions targeted and their locations cannot be informative enough if units of analysis of the studies are not identified. In other words, knowing units of analysis of studies provides more information on the studies' focus. Table 3 summarizes the findings;

Table 3: Targeted population of IL studies

Targeted population (n=18)	Frequency	Percentage
Undergraduates students	8	44.4
Lecturers	4	22.2
Librarians	4	22.2
Teachers	3	16.6
Primary pupils	2	11
Secondary pupils	2	11
Health workers	1	5.5
Out of school Youth	2	11

Table 3 indicates that a considerable percentage (44.4%) of the studies analysed targeted undergraduate students while the least targeted were health workers. The results can be attributed to the nature of institutions targeted by the studies, where it has been found that only one study targeted a healthcare setting. The results are in agreement with table one findings which revealed that most studies are set in academic institutions. From the table, it can be observed that in general, individuals that fall under the category of "learners" or students attract the most attention from IL researchers.

Competencies and skills focused on by IL studies

The other specific objective of this study was to establish the kinds of skills or competencies that IL studies conducted in Malawi over the period of interest have focused on. This was deemed important information for creating a collective understanding of what has been done and what needs to be done. The skills or competencies these studies focused on are as summarized in Table 4:

Table 4: IL competencies and skills

Skills (n=18)	Frequency	%
Basic ICT device operation	4	22.2
Application of ICT in work/studies	4	22.2
Information resource identification	10	55.5
Library information searching skills	10	55.5
Information evaluation skills	8	44.4
Internet information searching skills	10	55.5
Social media and networking	3	16.6
Collaborative learning	3	16.6
Referencing and citation	8	44.4
IL programming/delivery	3	16.6
Reading skills	2	11

Table 4 reveals that the studies analysed focused on various IL skills. However, it can also be seen from the table that information source identification skills, library information searching skills, and internet information searching skills were the most studied, with each being focused on by 10(55.5%) of the sampled studies. In contrast, reading skills were the least included in the studies with only 2(11%) of them attempting to study them. In all, the composition of skills or competencies studied reflects the nature of institutions where the selected studies were carried out and the groups of people targeted. As shown in earlier tables, majority of the studies were carried out within academic institution settings.

IL skills applications

In addition to finding out the skills or competencies the IL studies analysed focused on, the researchers were also interested in finding out the context in which the skills or competencies were studied. This was done keeping in mind that IL skills or competencies are not only applied in academic activities although a researcher may decide to investigate them in such a setting while another one may decide to investigate the same in a different setting. For example, one might look at people's ability to use ICTs in searching for information while another one may be interested in the ability to use the same in communicating information. The studies' analysis in this respect yielded the following results:

Table 5: IL skills applications studied

Application of skills (n=18)	Frequency	%
Academic tasks	11	61
Library applications	12	66.6
Workplace application	2	11.1
Daily communication	3	16.6
Teaching	8	44.4
Online interactions	4	22.2

From Table 5, it can be seen that majority of the studies selected looked at IL skills in relation to their application in academic tasks (61%) and library settings (66.6%) while a considerable percentage of them (44.4%) investigated the skills in relation to teaching. In contrast, only 11.1% of the studies investigated IL skills in relation to day to day work

responsibilities. Another outstanding observation that can easily be made is that the studies have not paid much attention to the IL skills that are related to information sharing.

Challenges reported to influence IL

The third objective of this study was to identify issues that affect IL as reported by researchers during the specific period. To do so, the researchers analyzed the selected studies to establish challenges that have been reported to influence IL skills attainment or challenges faced by IL initiatives. From the studies scrutinized, challenges summarized in table 6 have been identified.

Table 6: Challenges reported to face IL initiatives

Factor (n=18)	Frequency	%
Poor ICT infrastructure	15	83.3
Insufficiency of trained personnel	14	77.7
Insufficient institutional policy support	5	27.7
Geographical location	4	22.2
Interest of learners	4	22.2
Lack of collaboration between library and teaching units	8	44.4

Results in Table 6 reveal that IL initiatives in Malawi face a number of issues. However, it is apparent that poor quality of available ICT infrastructure (83%) strongly influences IL initiatives in the country, followed by insufficiency of trained personnel (77.7%). The results further show that people's geographical location (22.2%) and interest of learners (22.2%) have a weak influence on the initiatives.

Discussion

Considering the importance of information in every human endeavour, there is an obvious need for every person to possess knowledge and skills/competencies needed to leverage the abundance of this resource. This simply means that IL programs that are founded on needs that exist in our communities are needed. For this reason, the availability of research that covers various aspects of IL is a necessity. However, based on the findings of this study, apart from the limited number of retrievable IL studies in Malawi, the focus of those available is not even. In other words, the IL research available has focused on some areas leaving others. This trend appears to mirror what has been reported globally. Just like what this study has found in Malawi, the reviewed literature has clearly shown that IL researchers have paid more attention to higher learning institutions. This seems to imply that IL researchers in Malawi share the idea stipulated by Ranaweera (n.d) who argues that researchers believe that students in higher learning institutions need information handling skills more than anyone else. In other words, the limited availability of IL research targeting information users other than those in higher learning institutions in the country means details about what IL skills these other groups have or need are barely available. This is likely to give way for poor IL policies and programs targeting such people (Davies, Nutley, & Smith, 2000; Barrie, 2012).

IL research needs to focus on all types of settings (geographical or institutional) so as to find out what skills to impart to people and the ways to use in doing so. Information users are in every geographical location. Therefore, there is an obvious need for IL studies' focus to

span across urban and rural areas. However, this study has found that IL studies that have been carried out for the past 10 years have favored urban areas more. This goes against what is being urged by various players in IL (Sahu, 2015; UNESCO, 2015; IFLA, 2015) that since access to information is a necessity for everyone to thrive in the information society; IL skills should be imparted on everyone. The limited IL research focus on rural areas takes us back to the effect this will have on IL programs and policies to be developed for people in such areas.

Apart from the nature of institutions targeted by IL studies and their locations, the research's units of analysis are equally important in defining studies' focus and revealing the deficiencies existing in IL empirical literature. For that reason, the realization brought by this study that undergraduate students have been the most studied group of people in Malawi over the past 10 years not only further illuminates existing gaps, but also shows similarities with trends elsewhere (see Jessy, Shivananda, & Mahabaleshwara, 2016; Pausch & Popp, 2000). What is understandable is the fact that this study's findings are aligned with what has been found with regards to types of institutions targeted. In addition to that, the findings echo beliefs of other researchers (Naik & Padmini, 2014; Carr, et al., 2011) that people joining institutions of higher learning are faced with big volumes of information and expected to become independent learners hence needing IL interventions. However, this is a clear revelation of the shortage of empirical literature on people from various walks of life in the country. In addition to that, the less attention paid by researchers to academic staff members and librarians, raises more questions considering that these are key in IL activities in institutions of any kind.

While this study reports that over the past 10 years IL research in Malawi has focused on various types of competencies/skills; its findings further reveal that more attention has been paid to internet and library information searching skills, resource identification, referencing and citation, and information evaluation. According to literature (Shapiro & Hughes, 1996; White, 2009; Discovery Education, 2015; DePietro, 2013), these skills fall under resource literacy. In other words, out of the seven types of IL, for the past 10 years, IL research in Malawi has mainly addressed just one. This means that empirical data on this aspect of IL are more accessible to IL planners and policy makers. In contrast, other equally important IL aspects have not been satisfactorily explored as of yet. Unfortunately, while literature emphasizes IL efforts due to complications in the information society landscape caused by technological developments, IL research in Malawi has paid less attention to tool literacy, let alone emerging technology literacy. Understandably, the skills looked at by IL research were investigated from the perspective of library and academic applications.

With regards to IL challenges reported by the studies, it has been seen that, for the past 10 years, IL efforts in the country have been mainly hampered by poor ICT infrastructure, insufficiency of trained personnel, and lack of cooperation between libraries and teaching units. In general, these findings reflect what has been reported by other researchers (Link & Marz, 2006; Varlejs, Stec, & Kwon, 2013; Perin, 2013; Martin, 2011). This can be attributed to similarities in the trends of IL research in the country and those of the rest of the world.

Conclusions and recommendations

The overall observation of this study is that apart from being limited, IL research in Malawi in the past 10 years has left large gaps. As a result, there are no stimuli to make policy makers and planners see the necessity of developing IL programs for majority of population sectors in the country. Because of that, majority of people, especially those with no access to higher education in the country are likely to be information illiterate; a situation that should raise alarms considering the volumes of information (credible or not) people are faced with on

daily basis. In addition, the limited attention paid by researchers to tool literacy means that people are most likely left to find their own way into the technology dominated world with little or no help. This is unhealthy for an information society. In addition to that, while advanced hand-held information accessing tools are rapidly becoming ubiquitous, the insufficiency of research on skills people have with regards to their usage is another appalling observation. Following this study, it is obvious that libraries and information providers need to come up with a research agenda that will direct researchers' attention to IL so as to furnish IL policy and program developers with enough, accurate and up to date baseline data to aid them in their activities.

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