

**ENHANCING LIFELONG LEARNING TENDENCIES THROUGH INFORMATION
LITERACY PRACTICES IN HIGHER EDUCATION INSTITUTIONS: A CASE OF
COOPERATIVE UNIVERSITY OF KENYA**

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Abstract

Following the emergence of the knowledge economy, it has become fundamentally necessary for people to upgrade their information literacy skills throughout their adult life in order to cope with ever changing information environment. Lifelong learning has been affected by limited information skills. In Kenya, research on effect of information literacy practices on lifelong learning tendencies of undergraduate students has not been fully explored. Information skills university students gain while in university are transferable to their working life and prospective employers prefer employing people with proven Information skills. This paper focuses on; the effect of library orientation on lifelong learning tendencies of undergraduate students at the Cooperative University of Kenya; the effect of information literacy training on lifelong learning tendencies of undergraduate students at the Cooperative University of Kenya; the effect of integration of information literacy into curriculum on lifelong learning tendencies of undergraduate students at the Cooperative University of Kenya and to examine the effect of information technology on lifelong learning of undergraduate students at the Cooperative University of Kenya. A descriptive design was used, and data collected through questionnaires from a population of 520, sampled to 156 respondents. Findings show a strong and positive relationship between independent and dependent variables. We conclude that information literacy practices contribute positively and strongly to lifelong learning tendencies. The paper recommends that higher learning institutions need to orient students on how to use library resources for their learning needs in future and as they carry out their studies. Future researchers can expand the study to more universities for full appreciation of the impact of IL practices on lifelong learning tendencies.

Keywords: *learning tendencies, information literacy practices, higher education institutions*

1.0 Introduction and Scope

The essential goal of education is to raise individuals who are able to adapt lifelong learning independently in the current information society. To attain this objective, the indispensable means is Information Literacy (IL). Therefore, it has become compulsory to train the undergraduate students about Information Literacy knowledge, so as to equip them with skills that can help them to meet the required IL standards in their personal, social and business lives. IL refers to the capability to ascertain if there is demand for certain information, ability to identify the required information, locate it, assess the information, and efficiently use the knowledge to solve a particular issue or problem at hand (The American library Association –ALA, 2010). People who

are well equipped with IL and life-long learning skills are usually ready for any kind of hardships and uncertain changes that their careers and personal lives may bring.

However, some undergraduate students may not be well versed with the IL skills, which can limit their lifelong behaviour. The information overload and sophistication of information technology for storage and retrieval, students are confronted with the task of finding effective ways to access, evaluate and use the various formats and channels of information. The uncertain quality and expanding quantity of information pose large challenges for undergraduate students in universities (Mohd, 2012).

Institutions of higher learning therefore need to come up with IL practices that shall instill into learners the abilities and competencies for sustainable lifelong learning tendencies so as to thrive in the information society. IL and lifelong learning (LLL) have a mutually strengthening relationship that acts as a strategic component in the success of every person, the corporate world, institutions and society inside the global information society. Baro & Zuokemefa (2011) emphasizes that IL skills provide the foundation of LLL in a world where knowledge is progressively increasing and the technologies used to reach the mentioned information is continuously evolving (p. 34). Bruce (2012) argues that the beginning of the 21st century has been called the information age due to the explosion of information sources and knowledge output. The consequent changes in patterns of working and/or earning, living, learning and even survival have a clear impact on social institutions including institutions of higher and continuing education, corporations, and cultural institutes.

A study undertaken by Mittermeyer and Quirion (2013) on the IL level of first-year undergraduate students in Quebec discovered that lack of sufficient IL skills has a negative impact on lifelong learning tendencies, as well as personal and professional development (p. 123). In the same study, a number of important factors that influence the quality of academic work were identified as: difficulty in retrieving relevant information. This is as a result of students' inability to identify concepts and to read citation; a lack of knowledge of the structure and contents of library catalogues and of controlled vocabulary. Inefficient use of time arising out of students' experimenting with different search engines without success. This leaves students with little time to read and to integrate new information into their knowledge base, and to complete their assignments and risk of plagiarism due to a lack of knowledge about the ethical use of information and particularly the use of citations (Mittermeyer, 2013).

Following globalization due to evolvement of information technology coupled with the growth of the fast-changing knowledge economy, people need to upgrade their IL skills throughout their adult life, in order to cope up with the ever-changing information environment throughout the world. In knowledge-based economy the need for information has grown exponentially and is regarded as a fundamental pillar for industrialization; thus, inevitably affecting the entire education environment as well as rudiments of education in the universities, as they are the main sources of labour force for the industries. The most commonly cited areas of lifelong learning were computer skills, communications skills and general interest learning.

1.0. Problem and Focus

Most universities have not incorporated IL into their academic curriculum, but IL is rather viewed as a library function. This has hampered IL education growth in the country. Amunga (2011) highlights the problem of IL in institutions of higher learning by indicating that, in Kenya, there is no national policy on IL and information literacy-related activities are individual institutional matters (p. 31).

According to Breivik (2014), efforts have been made to improve IL in Kenyan universities through programmes such as the Maktaba Award, INASP/KLISC capacity Building Workshops, the New Partnership

for Africa's Development (NEPAD) e-school programme launched in June 2003, amongst others (p. 21). All these initiatives continue to create awareness of the significance of IL in schools, colleges and universities in Kenya.

Most undergraduate students feel intimidated by the complexity and size of a large library; reluctant to ask for assistance in its use; and lack awareness of the services and resources available. Kavulya (2013) noted that, the inability of students to access and use knowledge at university level has led to a tendency of generally placing reliance on their lecturer's notes, reinforcing teaching methods that do not encourage independent learning (p. 47). Employers thus prefer graduates from specific universities or those trained abroad, while university students applying for admission to foreign universities are viewed with suspicion or compelled to take preparatory university courses before gaining admission.

Karimi (2012) did a study on effects of IL on adult consumers of Kenya National Library Services in Embu County and established that at least 50% of the library users were not aware of existence of adult literacy programme within Embu library.

This paper presents findings on information literacy practices effect on lifelong learning tendencies. Lifelong learning is important in ensuring that learners develop skills to enable them navigate the information age with confidence.

1.1.Objectives and Scope

This paper addresses the following objectives and covers information literacy practices at the Cooperative University of Kenya:

- To examine the effect of library orientation on lifelong learning tendencies of undergraduate students at Cooperative University of Kenya.
- To examine the effect of Information Literacy training on lifelong learning tendencies of undergraduate students at Cooperative University of Kenya
- To examine the effect of integration of Information Literacy into curriculum on lifelong learning tendencies of undergraduate students at Cooperative University of Kenya
- To assess the effect of information technology literacy on lifelong learning of undergraduate students at Cooperative University of Kenya

These aspects targeted are the core practices that universities focus on to impart literacy skills among undergraduate students.

2.0. Literature and Theoretical Foundations

According to Ahmedabad Library Network (2009), orientation "majorly focuses on the means of introducing the IL users to the general techniques of library usage and services available, layout and facilities of a certain library". Library orientation is necessary in order to; Help the students to understand the importance of the library services in their academic life, bring about an awareness about the library resources, Build familiarity with the place, people and resources, Enable students understand the library mechanism, Help connect the students to the library resources, Help students avoid save time by avoiding repetitive library chores, Inform the students as to whom to contact for what and when for their resource requirements, Demonstrate the professionalism involved in the library and its activities, Increase student base which will help in getting an

increase in budget allotment, Indulge the students in the library and convert them to lifelong learners (Bruce, 2010)

User education is when different programs of exploration, education, and instruction provided by libraries to users to help them to make more effective, efficient and independent use of information sources and services to which these libraries provide access. This results in increased productivity of lecturers and student achievement. It would be beneficial if we schedule a variety of orientation activities because students have different methods of learning. Branch and Katherine (2015) note that apart from the one to one discussion which is effective with new student, some tested methods are: Written assignments, Audio visual tours, written orientation, Library policy and regulations/ handouts, Small group sessions, Computer assisted instruction

Integrating IL into the curriculum is about building skills for independent lifelong learning in a systematic way throughout a student's career. Undergraduates should be able to 'use information literacy to find, evaluate, process, present and communicate information' (COBE, 2015). When IL is integrated into an academic curriculum, it becomes more meaningful or makes sense to students in relation to the course activities in which they are engaged. Making sense of experience involves integrating that experience (IL learning) with established knowledge (subject knowledge) within the constraints of existing cognitive structures, to construct and develop new knowledge. Therefore, when students experience IL with their course assignments, course activities within their subject context, new subject knowledge and IL knowledge will be constructed and developed. This makes learning more meaningful (Williams, 2016).

Communication skills are a common unit in every course, thus help reach out to all students. This help in information literacy because students are equipped with the basic library skills which is incorporated in the course. Further efforts must be done in order to make IL a standalone course in order to benefit the undergraduates more (Neuman, 2011). Effective integration of IL in education the curriculum needs the collaborative efforts of librarians and other institutional departments. However, without collaboration the integration will be a wasted effort and unsuccessful because other departments in learning institutions must help to ensure that IL skills get inculcated into the syllabus course of each student so as to attain LLL. IL programs should try to convince academics to collaborate with librarians, so as to train well students in IL skills and LLL. Recognizing the role of a collaborative partnership between academics and librarians will create and enhance effective collaboration (Lynch, 2008).

With increasing need for knowledge, use of information technology through digital libraries has become imperative in order to complement the conventional libraries. According to Karimi (2012) a digital library is as a managed environment of multimedia materials in digital form, designed for the benefit of its user population, structured to facilitate access to its contents and equipped with aids to navigate the global network with users and holdings totally distributed but managed as a coherent whole. The rise of the digital library is linked to Information and Communication technology (ICT) advancement. It is an integrated set of services for capturing, cataloguing, storing, searching, protecting and retrieving information.

Higher education stands to gain a great deal of benefits if it supports and maintains the development of digital libraries that contain works of lasting intellectual value including both primary sources that open up and support new lines of scholarship in the arts and sciences; secondary sources that record and disseminate scholarly activity. Priorities and policies should guide higher education in its approach to the development of digital libraries. The mission of any emerging digital library is to develop, store, provide access and electronically distribute collections of high-quality digital images (Donald, 2011).

Mohammadi, Moghaddam and Yeganeh (2010) found out that 76.9 percent of the students indicated that library instruction was very much important and aided them in their chosen career. It is evident in that study that majority of the students who received training through library instruction program were familiar with reference department, the non-circulatory feature of reference books, bibliographies, indexes in reference works among others.

Shen (2014) studied the effect of online and in person library orientations on graduate students' information literacy skills. The study shows a significant relationship between library orientation and information literacy skills of the students. It shows that majority of the respondents chose the library or librarian as their starting point for research and had the ability to identify book or chapter title in a citation, while most of them improved in their academic works after the library sessions.

Lifelong learning is both an effect of internal and external conditions, and has effects on an individual's personal and professional's life or on the growth and development of an organization or region. Bruce (2010) in a study which he correlates lifelong learning and information literacy, emphasizes that information literacy enables individuals to the opportunity of lifelong learning in the personal and occupational context (p. 67). In another study which correlates information literacy and lifelong learning, there's a statement as follows: "The successful individuals of the future will be the individuals who are able to access information; who can use technology in accessing information; who can solve problems; and who can learn on their own. Information societies need individuals who has are skilled at lifelong learning.

Every student/individual who is raised in information age ought to have the basic skill of learning to learn, that is to access the constantly changing information from various sources, to evaluate and use this information." As a result, there is a significant relationship between students' information literacy skills and LLL levels. This relationship is positive and at moderate level. Thus, it is understood that when students' information literacy skills increase their attitudes toward LLL will also increase in parallel at moderate level. The universities should emphasize on educational programs that help develop their students' lifelong learning and information literacy behaviors, at bachelor, master and doctorate levels and this should be another education aim and graduate outcome of universities. Furthermore, universities should organize seminars about lifelong learning and information literacy education for their graduates.

2.1.Theoretical Review

2.1.1. Seven Pillars of Information Literacy Theory

The theory, revised in 2011, has been adopted by librarians and teachers the world over as a guide for training learners in information skills in higher education (Bent & Stubbings, 2011). While maintaining the basic principles of the original (2010) model, the revised model relates well with various groups of people at their levels and describes a set of generic skills and understandings expected at each of the seven pillars for anyone to become information literate, then offers a series of "lenses" through which different learners can apply it.

The Seven Pillars are conceived as a three-dimensional circle, demonstrating that integration of IL into curriculum is not a linear process, but rather cyclical or interactive. According to SCONUL (2011), the individual's aptitude, background and experiences affect how they respond to information literacy development; and that within each 'Pillar' an individual can progress up or move down depending on the level of skills acquired. This theory therefore is very effective on encouraging integration of IL into curriculum through IL course, library instruction and collaboration between faculty and librarian. This makes it important to the study variable integration of IL into curriculum.

2.1.2. Sauce Theory

According to Bond (2001), Sauce is an IL theory aimed at providing IL skills to learners. It is designed to be applicable to various levels and situations of learning. It has six key facets, namely IL, Collaborative and individual learning, Essential skills, Higher thinking skills, Problem solving and ICT integration. The results of the search are evaluated and used to generate new information that is then used and communicated.

2.1.3. Discovery Learning Theory

The theory on discovery learning was developed by Jerome S. Bruner who is not only a developmental psychologist but also a learning and instructional psychologist. He has shown a lot of interest in how learning occurs; how teachers facilitate learning and he is also associated with discovery learning (Bruce, 2010).

At the beginning, the teacher present learners with a problem and play the role of a facilitator thereafter. Advantages of Bruner's view of discovery learning are: First, it enables learners to increase their ability to learn related material; second, it increases their interest in the task in which they are involved; third, it contributes to lasting retention of information; fourth, it makes the transfer of learning more probable; fifth, it develops initiative in dealing with similar problems; sixth, it trains in important thinking operations such as comparing, summarizing, interpreting and criticizing; and finally it teaches learners how to learn.

This theory is relevant in library orientation because when students visit the library, they have an opportunity to discover for themselves whether the collection contains the information required, through self-discovery. Often students visit the library facilities to check for recommended text books due to the fact that lectures do not always exhaustively explain what is required in a particular topic. The solution to their needs lies in the extensive resources in the library. In order to utilize the information resources effectively, users need orientation, user education on library usage so as to break the communication barrier between them and the library.

3.0. Methodology and Design

This paper is based on findings of a research study conducted among undergraduate students of the Cooperative University of Kenya. A descriptive design was used to plan a study on a target population of 520 students and staff of the University. A sample of 156 respondents was selected using quota and convenient method. Data was collected using drop and pick method through semi structured questionnaires. A multiple regression model guided was formulated to guide data analysis using SPSS version 23.

4.0 Findings, Discussions, Conclusions and Recommendations

This paper seeks to highlight the effect of information literacy practices on lifelong learning tendencies of undergraduate students. The findings are organized around a 5point likert scale showing how respondents agreed or disagreed with the various constructs under investigation. A descriptive analysis result is given.

4.1 Effect of library orientation on lifelong learning tendencies

The first objective of the study was to examine the effect of library orientation on lifelong learning tendencies of undergraduate students at Cooperative University of Kenya. Participants were asked whether they thought library orientation affects lifelong learning tendencies of undergraduate students. As shown in Figure 1 it is clear that most of the respondents at 95% were of the opinion that library orientation affects lifelong learning tendencies of undergraduate students whereas 5% of the respondents` thought these was not the case.

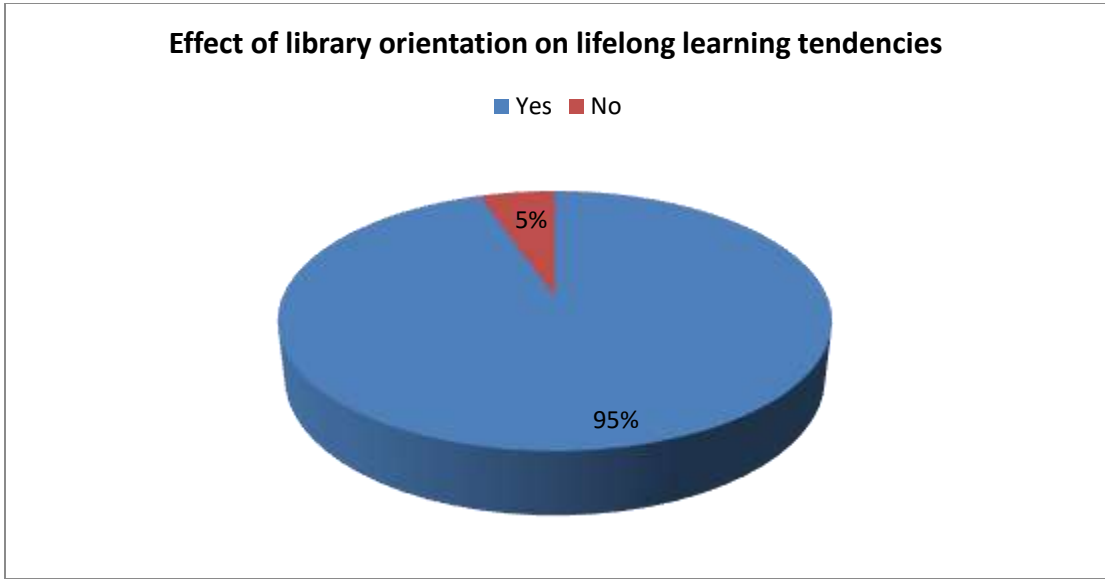


Figure1: Does library orientation have an effect on lifelong learning tendencies of undergraduate students

Table 1: Extent of effect of library orientation on lifelong learning tendencies

	N	Mean	Std. Deviation
	Statistic	Statistic	Statistic
Initial orientation is a must for all students	114	4.1579	1.02689
There is continuous orientation for students	114	4.2193	1.37460
Our college has user education	114	4.5351	.97925
Students are shown how to use library catalogues	114	4.7982	.68071
Our college gives instruction on how to access information materials in the library	114	3.2982	1.42624
Students are trained how to use search library databases	114	3.3596	.96052
Valid N	114		

Participants were asked questions on the extent of effect of library orientation on lifelong learning tendencies on a Likert scale of 1-4 where: 1 = Strongly Disagree; 2= Disagree; 3= Agree and 4= Strongly Disagree. According to the findings in Table1, the most significant effect of library orientation on lifelong learning tendencies of undergraduate students was students being shown how to use library catalogues with a mean of 4.7982 followed by the factor which indicates that the college has user education at 4.5351 implying that the participants agreed with this aspect.

This finding concurs with Ahmedabad Library Network (2009) who argued that orientation is primarily concerned with ways of introducing the user to the general techniques of library usage and services available, and the organization, layout and facilities of a particular library. The findings also agree with those of Branch and Katherine (2015) who noted that apart from one to one discussion which is effective with new student an organized plan for orientation ensures that our users know where to go for help (p. 84).

4.2. The Effect of information literacy training on lifelong learning tendencies

The participants were asked give their views on the perceived effect of information literacy training on lifelong learning tendencies. According to the findings in table 2, the school library has effective search strategies with a mean of 3.7368 followed by availability of information retrieval tools at 3.4474 implying that most the respondents agreed on the two variables on the effect of information literacy training on lifelong learning tendencies. The reasonably high standard deviations are a pointer to varied consensus among the respondents this casts doubts as to whether

Table 2: Extent of Effect of information literacy training on lifelong learning tendencies

	N Statistic	Mean Statistic	Std. Deviation Statistic
Our library has effective search strategies	114	3.7368	.86272
Information retrieval tools availability	114	3.4474	.90321
There are different types of information sources	114	3.2719	1.08314
The library is an important component in our studies	114	3.3158	.82350
Students access to borrowing of books and reading of information resources	114	3.3158	1.15457
Valid N	114		

4.3. The Effect of integration of information literacy into curriculum to lifelong learning tendencies

The study sought to establish from the respondents whether they thought integration of information literacy into curriculum has an effect on lifelong learning tendencies.

Table 3: Extent of effect to which integration of information literacy have on lifelong learning tendencies

	N Statistic	Mean Statistic	Std. Deviation Statistic
Students take communication skills course	114	3.6579	.93911
There is collaboration between faculty and librarian	114	4.1754	1.41575
Library instruction are available	114	3.0175	.60940
Information literacy classes are mandatory	114	2.5351	1.04059
Our institution has integrated information literacy training to become part of the university curriculum for all incoming first-year students	114	3.7895	1.44806
Valid N	114		

From the findings in table 3 above, there is collaboration between faculty and librarian with a mean of 4.1754 followed by the institution has integrated information literacy training to become part of the university curriculum for all incoming first-year students at 3.7895 indicating that most of the respondents agreed on effect of integration of information literacy on lifelong learning tendencies of undergraduate students at Cooperative University of Kenya based on the Likert scale. Other integration of information literacy into curriculum factors that have an effect on lifelong learning tendencies of undergraduate students include; students taking communication skills course, library instruction being available and information literacy classes being mandatory.

These findings agree with those of Dinet (2014) who argued that effective integration of information literacy across the curriculum requires the collaborative efforts of academics and librarians, without collaboration the integration will be an effort and often unsuccessful. He further concluded that information literacy programs

should try to convince academics to collaborate with librarians to prepare information literate students. This is in addition to identifying the role of a collaborative partnership between librarians and academics will encourage effective collaboration.

4.4. The Effect of information technology literacy on lifelong learning

The fourth objective of the study was to assess the effect of information technology literacy on lifelong learning of undergraduate students at Cooperative University of Kenya. The respondents were asked whether they thought information technology literacy had an effect on lifelong learning of undergraduate students.

As per the study results in table 4, web-based tutorials for all students with a mean of 3.6754 followed by the statement indicating that students are offered online information skills programme which allow participants to be self-directed and follow their own personal pace, maximizing on the use of information at 3.9737 are the factors that the respondents agreed to having the most effect on lifelong learning tendencies. Other information technology literacy factors were; university library has digital libraries, there is an online information literacy programme and institution trains on application of information technology in information literacy. This implies that all the variables associated with information technology literacy have had a large effect on lifelong learning tendencies of undergraduate students. These study findings are in agreement with those of Corall (2008) who contends that the ability to find, assess and use information effectively is now widely recognized as an essential competence for effective participation in contemporary society. The descriptive analysis in table 4 below gives these findings.

Table 4: Extent of Effect of information technology literacy on lifelong learning tendencies

	N	Mean	Std. Deviation
	Statistic	Statistic	Statistic
Our university library has digital libraries	114	3.6754	1.24443
Web-based tutorials for all students	114	3.9737	.84624
There is an online information literacy programme	114	2.9211	.92310
Our institution trains on application of information technology in information literacy	114	2.5965	1.47378
Students are offered online information skills programme which allow participants to be self-directed and follow their own personal pace, maximizing on the use of information.	114	3.8246	1.55288
Valid N	114		

4.5. Regression Analysis

Multivariate analysis was conducted to establish an empirical model establishing the association between information literacy practices on lifelong learning tendencies of undergraduate students. This analysis helped discern the combined effect of information literacy practices at the Cooperative University of Kenya on the lifelong learning tendencies of undergraduate students.

From the results in table 5, the Coefficient of Multiple Determination (R^2) is 0.774 implying that the regression line is of “*high goodness of fit*” explaining up to 77.4% of the variation in lifelong learning tendencies. The p-value of 0.000 indicates that the relationship between information literacy practices and lifelong learning tendencies of undergraduate students is statistically significant at 5% confidence level. This means the practices employed to inculcate information literacy, can explain up to 77.4% of the acquired life learning tendencies.

Table 5: Regression Model Summary of the Influence of Independent Variables on the Dependent Variable

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Df	Sig. F
1	.880 ^a	.774	.766	.70085	93.385	4	.000

Table 6. Regression Coefficients of the Independent and Dependent Variable

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.455	.478		5.137	.000
Library orientation	.690	.150	.033	.463	.003
Information literacy training	.723	.124	.431	5.824	.000
Integration of information literacy into curriculum	.605	.049	.592	12.456	.000
Information Technology literacy	.172	.125	.101	1.379	.002

As per the model coefficients in table 6, the equation $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \dots + \beta_4X_4$ becomes;

$$Y = 2.455 + 0.69X_1(\pm.150) + 0.723X_2(\pm.124) + 0.605X_3(\pm.049) + 0.172X_4(\pm.125)$$

The implication is that lifelong learning tendencies tend to increase strongly and positively with information learning skill practices. It's important to note that information literacy training, library orientation and integration of information literacy into the core curriculum had a strong and positive influence on life learning tendencies of undergraduate students. Since the relationship is statistically significant at 95% significance level, it implies that investing in information literacy skills for under graduates, greatly improves their lifelong learning tendencies which are important at today's information age. Information technology had a weak relationship with lifelong learning tendencies though for this group. This means that investing in this aspect does not greatly influence lifelong learning tendencies. This could be attributed to the changing nature of IT skills and also the less attention paid by universities in improving these skills.

From the findings we conclude that lifelong learning, library literacy training, integrating information literacy skills in the curriculum and library orientation are strongly associated. Therefore higher learning institutions need to invest more in these aspects to as to achieve more.

The study recommends that universities need to train more in collaborations, literacy training and library orientations. Information technology is important in today's workforce the higher learning institutions need to put more effort in improving these in order to impart more life learning outcomes.

Further studies can be conducted in wide range of higher learning institutions to show any discrepancies in terms of impact of the information literacy practices in lifelong learning tendencies.

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