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The Information Literacy and the Infodemic in COVID-19 pandemic at Kampala International University

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Abstract

Access to reliable information in times of emergency is important. However the quantum of information during emergency may cause infodemic. The study investigated the role of information literacy in mitigating infodemic in COVID 19 pandemic. A survey was conducted among educators and students in School of Mathematics and Computing (SOMAC), Kampala International University (KIU), Uganda. The findings reveal that: majority of the respondents (50%) either agreed or strongly agreed that they evaluated information before use; on the state of their emotions, respondents were confused, overwhelmed, alarmed and anxious; 50% were able to access the information with ease, while 50% could not. In terms of training in information literacy, half (19) of the respondents were trained, while half (19) were not; however, 100% of respondents affirmed importance of information literacy training; faculties/schools, public libraries, school libraries, and special libraries have the mandate to teach information literacy. Benefits of information literacy skills as revealed by the study includes: information literacy equips us with the necessary skills to recognize credible information; helps in decision making and productivity; enable one know the authenticity, validity and reliability of information; help in developing inquiry based problem solving, critical thinking skills; develop the abilities and skills on how to learn and learning to learn; help in our day-to-day life. The study then recommended that information literacy training be included in the curriculum in all levels of education, from primary school to tertiary levels.

Key words: Information, Literacy, Infodemic, Pandemic, COVID-19, Uganda

1. Introduction

COVID-19 pandemic became a world threat and public health emergency in 2020 and 2021 (World Health Organisation, 2020). The corona virus affected daily lives of almost everyone in developed and developing countries including students, lecturers, librarians, and administrators in institutions of learning. Everyone was taken unaware of the virus, there were a lot of information

in the information landscape so much that people became confused on what to choose from to combat the effects of the disease. The only reliable source of information at the beginning of the pandemic was through the government Ministries of health and the World Health Organisation. However, many people especially from hard-to-reach areas and where Internet was inaccessible suffered the most with wrong or unreliable information about the disease. So, as the corona virus spreads, another pandemic accompanies it is misinformation. This pandemic is more fluid than the virus. This was collaborated by the Director General of WHO: “We’re not just fighting an epidemic; we’re fighting an *infodemic*.” (WHO, 2020). Jeann (2020) quoting WHO sees infodemic as an over-abundance of information—some accurate and some not—that makes it hard for people to find trustworthy sources and reliable guidance when they need it. People were more confused on the quantum of information on the spread and cure of COVID-19. This was the time the term infodemic came into being and WHO started to sensitize the public to seek for accurate information as a way to counter misinformation and disinformation (Guo and Huang, 2021).

Every minute in the world today, millions of information are being pushed out into the society. Information is no longer scarce. It is everywhere just at the press of the button. There are a lot of media speeding the production of information in a geometric rate. Multiplicity of information is more intimidating in times of emergency like the time of COVI-19 pandemic. There are a lot of information - misinformation, disinformation and true information in the information landscape. The challenge of man in this information age is no longer on information scarcity, but on how to get and access this information, right media to use, how to evaluate the information and how to use the information to solve problem. There is always confusion in dictating which information is authentic and facts, propaganda and opinion. To mitigate infodemic in time of emergency, every citizen needs to possess right skills not only in the use of new media to produce information, but know how the information they consumed is produced, who produced it, for what purpose and for who. They need the skills to know when they need information, how to use the information, how to evaluate the accessed information, how to sieve and filter information they consume every second. Acquisition of information and media literacy is a must to mitigate the infodemic in times of emergency and pandemic (Jeann, 2020).

2. Literature review

Information Literacy has existed for almost 50 years since it was coined by Paul Zurkowski (Guo &Huang 2021). Since the concept has been growing and becoming relevant in various spheres of human life and information. Its origin is in the world of information. To understand information literacy it is important to start with the word information as a general concept. IFLA (2006) sees information as a resource that has varied definitions according to the format, and media used to package or transfer it, as well as the discipline that defines it. Case (2002) in IFLA (2006) in defining information, reveals information as being:

- Encapsulated knowledge
- Packaged human experience
- A source that can provide a myriad of data
- A resource that takes different formats, packaging, transfer media, and varied methods of delivery
- People: family, friends, tutors, fellow students
- Institutions, i.e., national health service professionals or help facilities “

Information itself does not make people literate. One must acquire the skills and competencies that enable one to locate, access, evaluate and ethically use information which in one term it means information literacy. Information is everywhere but one must be literate enough to be able to sieve differentiate real information from misinformation, disinformation, or fake information (Igbinovia, Okuonghae & Adebayo 2021). Before the advent of information technology and communication (ICT), literacy simply means the ability to read and write. But as information technology and communication evolve the more, there seems to be various types of literacy such as audiovisual literacy, print literacy, computer literacy, media literacy, web literacy, technical literacy, functional literacy, library literacy and information literacy. Information literacy is the umbrella of all the above literacy concepts.

According to American Library Association (2000), Ranaweera (2008) and IFLA (2020), information literacy is the competencies an individual has acquired to be able to find or locate, analyze or evaluate, and use information ethically or effectively. CILIP (2017) defines information literacy as “The ability to think critically and make balanced judgements about any information we find and use. It empowers us as citizens to develop informed views and to engage fully with society”. Johnson & Webber, 2003 in Webber & Johnson 2017 defines Information literacy as: “Information literacy is the adoption of appropriate information behaviour to obtain, through whatever channel or medium, information well fitted to information needs, together with critical awareness of the importance of wise and ethical use of information in society.”

Information literacy is an important concept that addressed variety of information users’ needs. Bothma, Cosijn, Fourie and Penzhorn (2014) highlights the competencies that need to be qualified as information literate. These competencies include:-

1. When someone is unable to answer certain questions, unable to solve a problem, unable to make a decision within the current reference, it means there is a need of appropriate information to cover the gaps. To be able to know the information that can help, analyse the need critically, decide the source to use and use variety of sources to avoid biasness.
2. To find the appropriate information, if it is in the database, use the key terms, the query ad develop a search strategy.
3. After the information is located, keep the most relevant and from credible sources that are qualified and authorized to communicate the information. To know the information is right or credible when evaluating look for reliability, validity, accuracy, authority, and timeliness.
4. To use the located information effectively and ethically, means use it within the parameters of the society values, beliefs and legal framework. Acknowledge the source and share is within the stipulated boundaries. The information should be used for the specific purpose zeroed on where analyzing the information gap.

The importance and implementation of Information literacy in infodemic could be seen through the flow of the COVID 19 information. The constant flow of information during the COVID-19 in the form of written word, video, audio and even meme in social media and Internet became overwhelming and frustrating. How can people navigate through the streams of content on the pandemic? Meme was plenty. Meme means “an image, video, piece of text, and so on, typically humorous in nature that is copied and spread rapidly by internet users, often with slight variations”

(Oxford University Press, 2023). Both the educated and non-educated were caught in this net of infodemic where meme was all over the place. In Africa, large population of people are with low basic information skills and this has consequences for both the individual and society. These consequences were heightened during this pandemic COVID-19. This is the first pandemic people rely heavily on social media and where information multiplies and become uncountable. It is then crucial that strategies should be put in place to train the people in information literacy to enable them cope with quantum of information that emerged during any emergency and because their ability to know and practice safe behaviors has a direct impact on disease transmission to others.

Information literacy skills and competencies are very important to save citizens from confusion, frustration and anxiety they experienced during the pandemic because people will continue to rely on web technological tools in times of emergencies than other known media. Libraries of all kind should develop consistent strategies to train all citizens in information literacy. Libraries especially public libraries have the full potential in supporting formal, non-formal and informal learning in all aspects of literacy: reading and writing, information literacy and media literacy (Huysmans, 2016).

Institute of Education Sciences, USA (2020) research reveals that during the COVID-19 pandemic, when people have a heightened need for information, literacy barriers can be life threatening. People were incapable of sieving the true information from the misinformation flying in and out the various media. Ford (1994) sees information literacy skills as gateways to access true information. Information literacy is a means of personal and national empowerment in today's information rich environment. It allows people to verify or refute expert opinion and to become independent seekers of truth. It provides them with the ability to build their own arguments and to experience the excitement of the search for knowledge.

Arua et al. (2018) opine that teaching of information literacy skills to learners helps them to be conscious of what it means to be information literate and e-literate and to use information effectively; in an age where the information overload becomes the norm. Arua et al. continues to say that information literacy training empowers people in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals; and it equips them with skills necessary to become independent life-long learners.

Information literacy allows people to cope with the data smog, by equipping them with the necessary skills to recognize when they need information, where to locate it, and how to use it effectively and efficiently. Consequently it will help decision making and productivity which is beneficial to the society (Ranaweera, 2008). Continuing, Ranaweera (2008) explains that information literacy skills empower the people with the critical skills which will help them to become independent life-long learners. These skills will enable people to apply their knowledge from the familiar environment to the unfamiliar.

In order for countries to successfully distribute helpful, life-saving information to its citizens, it's important that health literacy is acknowledged. If people are provided with valid reasons for certain health recommendations and think carefully about the possible outcomes from their actions, they may be more likely to act socially responsible and help stop the spread. To do so, a sense of solidarity must be created between individuals who provide information and those who require information. When citizens are health literate, they can understand the severity of a situation and

can understand safety measures to follow for themselves and others. Health literate citizens can more easily understand basic actions such as physical distancing and hand hygiene (ABC life Literacy Canada, 2020).

Acquisition of information literacy skills can enable one uphold and preserve the type of information environments that one want for the welfare of his/her families, communities, as well as for active citizenship, sustainable development, and viable democracies. By managing critically how we engage with information in times of crisis, we can progress towards positive values such as solidarity, generosity, togetherness. Information and media literacy can help us stop the spread of misinformation, control the information fog, and better focus on developing healthy media and information environments for all (UNESCO, 2020).

Information literacy according to the Youth Cafe (2020) empowers people in all works of life to seek, evaluate, use and create information effectively to achieve desired goals like containing the scourge of corona virus. It is a basic human right in a digital world and promotes social inclusion in all nations. It equips people to participate and contribute their views not only in world issues but in national democratic issues. The importance of information literacy is succinctly expressed in the nature of an information literate individual. According to Californian University Information literacy fact sheet, (2000); an information literate individual is able to:

- Determine the extent of information needed
- Access the needed information effectively and efficiently
- Evaluate information and its sources critically
- Incorporate selected information into one's knowledge base
- Use information effectively to accomplish a specific purpose
- Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally

When an individual has all these attributes, he/she will be able to maneuver all type of information around him and be able to make meaningful and informed decisions regarding any situation. Information literacy is a rare gem that has been neglected and that is a must for both educators and scholars. Through literature it is clear that since COVID 19 started a vast amount of information has been generated pertaining the disease, treatment and prevention that need information literacy skills for someone to avoid becoming a culprit of infodemic (Guo & Huang 2021) for all groups of people in the society. Therefore this study aims at highlighting the way faculty or schools in universities coped with COVID 19 infodemic and how information literacy benefited them.

1.4 General Objectives

The general objective of this survey is to identify the role of information literacy skills in mitigating infodemic during pandemic.

1.4.1 Specific Objectives

1. Find out whether people evaluated information before use during COVID 19.
2. Ascertain the emotions of people during COVID-19 pandemic.

3. Find out whether people could easily access reliable information concerning the pandemic from sources of information available.
4. Establish whether people were trained in information literacy before the pandemic.
5. Ascertain the benefits of information literacy in times of pandemic.
6. Find out the measure that can be used to improve information literacy trainings.

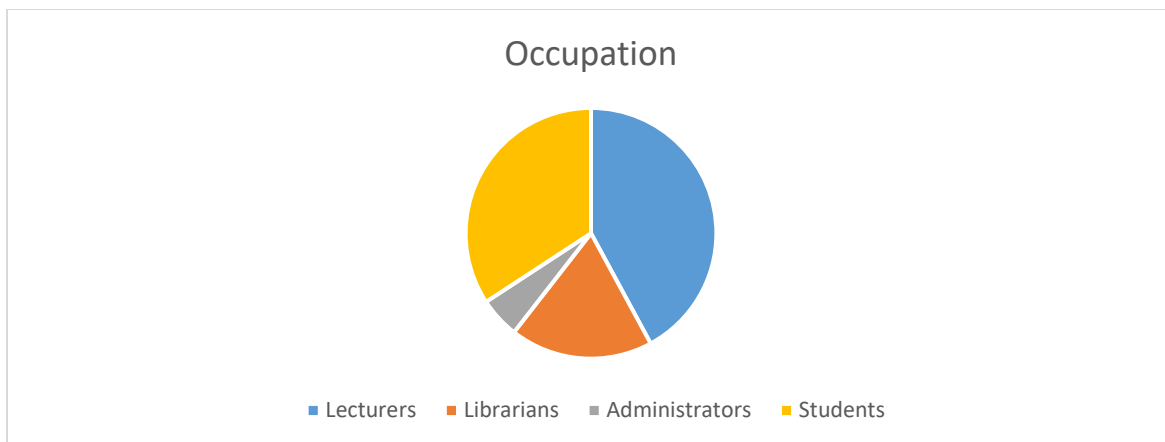
2. Methods and Materials

The study sought to find out the role of information literacy in mitigating the infodemic during COVID-19 pandemic among educators in Uganda. The research design was a descriptive survey of Kampala International University School of Mathematics and Computing educators, administrators, students and librarians. Census sampling size method was used to select the respondent from the School population of 50 staff members and 200 students through online Google forms. Every staff member was given the same opportunity to participate.

3. Results and Discussions

The study realized 38 respondents out of 250 participants which is above 10% response rate. The total sample was determined through online administration of the instrument. Instrument for data collection was a set of questionnaire of seven items. The data collected from the study were analyzed using weighted mean.

3.1 Respondents Occupation



Out of the 38 respondents, 42 % (16) were lecturers, 34% (13) were students, 18% (7) were librarians and 4% (2) were administrators.

3.2 Find out whether people evaluated information before use during COVID-19

Table 1: Evaluation of Information before use

Response	Rate	%
Strongly disagree	3	8
Disagree	11	29
Neutral	5	13
Agree	8	21
Strongly agree	11	29
Total	38	100

According to table 1 above, 29% of the respondents do not agree that lecturers and students at Kampala International University School of Mathematics and Computing carefully evaluate the information before using it. Meanwhile 50% of the respondents either agree or strongly agree that lecturers and students evaluated information before use. However, 8% strongly disagree that they do not know how to evaluate information before use. From the result it shows that most of the students and lecturers are aware of infodemic in the world today. So, they carefully evaluated their information before using it during COVID-19. This is not surprising owing the fact that this is a School of Mathematics and Computing.

3.3 To ascertain the emotions of people during COVID-19 pandemic.

Table 2: Respondent's feelings

Responses	Rate	%
Frustrated	6	15
Confused	10	26
Calm	4	11
Anxious	4	11
Alarmed	5	13
Overwhelmed	8	21
No response	1	3
Total	38	100

Table 2 above indicates the feelings of the respondents on information at their disposal during COVID 19. Majority 26% (10) were confused. About 21% (8) of the respondents were overwhelmed and 13% (5) were alarmed. 11% (4) were anxious, while 11% (4) were calm. This showed that respondents were confused, overwhelmed, alarmed and anxious

3.4 Were you able to easily access reliable information concerning the pandemic from sources of information available?

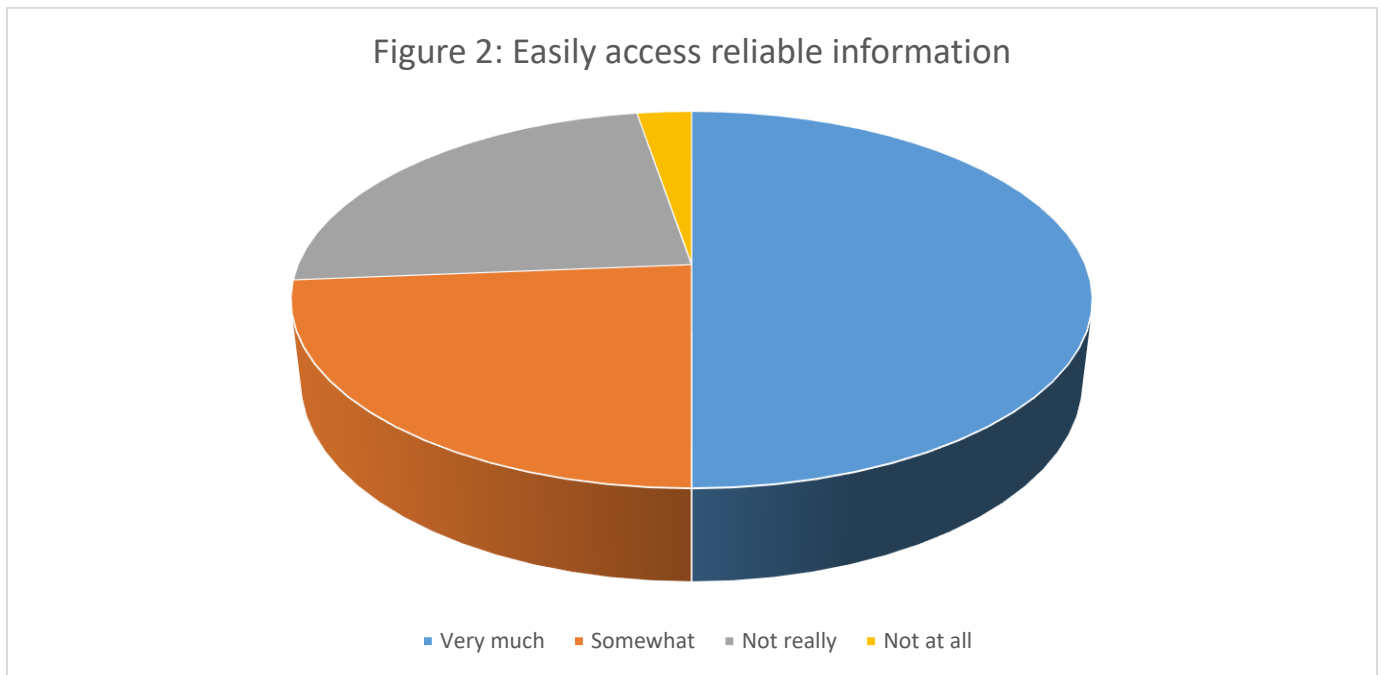


Figure 2 shows how easily the respondents were able to access reliable information concerning the COVID 19 pandemic from sources that were available. Majority (50%) of the respondents said they could very much access reliable COVID 19 information from sources that were available, while 3% said they could not access at all and 24% said not really and the same percent (24%) not really. These findings means that half of the respondents could get reliable information while half could not. The findings agree with those of Igbinoia, Okuonghae &Adebayo (2021) same kind of study in Nigeria where the undergraduate students could not manage to access reliable COVID 19 information. This means the faculty members failed to make right decisions concerning the pandemic and even use the best solution for COVID 19.

3.5 Have you ever had any training on information literacy skills before the pandemic?

Figure 3: Training on Information Literacy



According to figure 3 above the respondents were asked whether they had information literacy training skills before COVID 19, the responses were 50/50, which means that 19 respondents were trained while the rest of the 19 were not trained at all. Therefore, half of the respondents did not have any information literacy skills to avoid infodemic, while half had prior information literacy training. These findings is a pointer that the university community still has a high population that need information literacy trainings so as to survive during emergence times like COVID 19.

3.6 Information literacy training is very important for one to function adequately and effectively during emergencies like COVID 19

Table 3: The importance of Information literacy training during COVID 19

Responses	Rates	%
Very important	32	84
Important	6	16
Very unimportant	0	00
Not sure	0	00
Total	38	100

Table 3 above indicates that information literacy training is very important during emergencies like COVID 19, this is because 32 (84%) of the respondents affirm so, while only 6 (16%) said it is important. These findings means that information literacy training is needed to equip masses to manage misinformation during emergencies. Guo and Huang (2021) study agree with this finding that information literacy skills are needed to help students and other people survive in times of emergency like COVID 19.

3.7 What are the benefits of information literacy in times of emergency? Tick as many as possible.

Table 4: Benefits of information literacy

	Response rate	%
Information literacy help us cope with data smog.	14	36.8
Information literacy equip us with the necessary skills to recognize and sieve out credible information.	34	89.5
Information literacy help in decision making and productivity.	26	68.4
Information literacy skills enable one know the authenticity, validity, and reliability of every information	24	63.2
Information literacy will help in developing inquiry based, problem solving, and critical thinking skills.	22	57.9
Information skills are vital to the success in education, occupation, and day to day communication of all citizens.	19	50.0
Information literacy is very important in the achievement of healthy democratic and economic processes.	15	39.5
Information literacy skills will help one easily sift reliable information from the numerous information available.	21	55.3
Information literacy skills enable one develop the abilities and skills on how to learn or learning to learn	17	44.7
Information literate individuals improve the society's quality of life in general.	13	34.2
Information literacy helps us in our day to day life	21	55.3

The table 4 above indicates the way respondents see the benefits of information literacy during emergencies like COVID 19. Majority of the respondents 34(89.5%) agree that information literacy equipped them with necessary skills to recognize and sieve out credible information, followed by 26(68.4%) respondents who said that information literacy helps them to make decisions and be productive. The least 13 (34.2%) respondents said information literate individuals improve the society's quality of life. These findings, generally ascertain to the fact that information literacy is beneficial to society and contributes to the individuals life to some extent just as it was the conclusion of the same nature of study carried out in Nigeria by Igbinovia, Okuonghae &Adebayo (2021).

3.8 What appropriate institution should teach information literacy? Tick as many as possible.

Figure 4: Institutions to teach information literacy

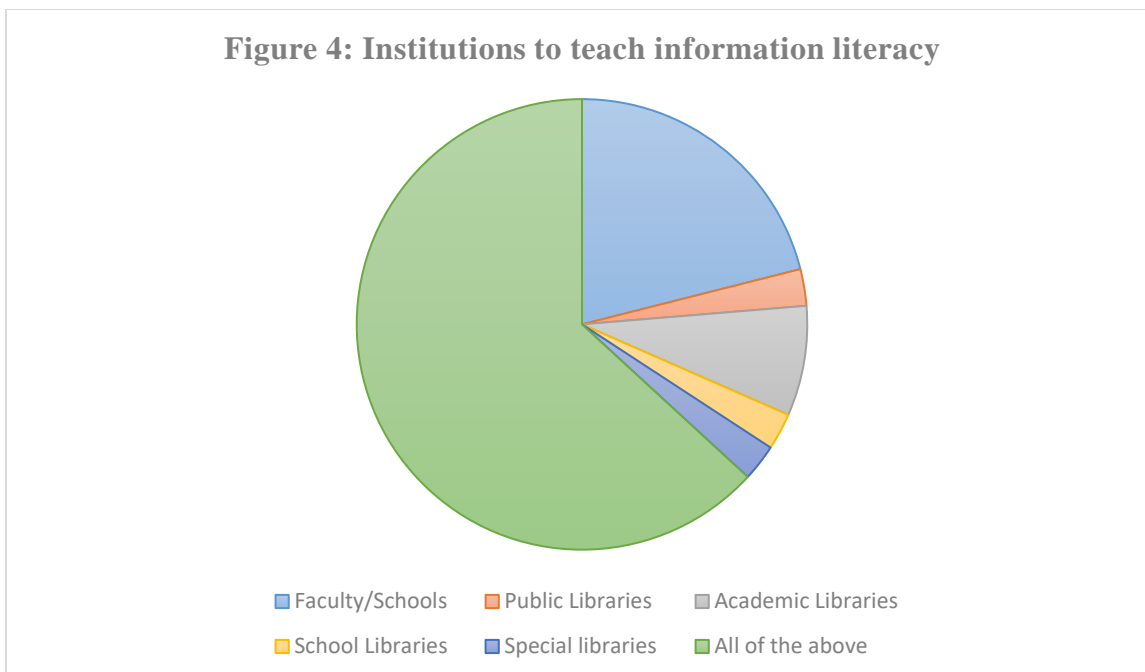


Figure 4 above shows the responses about the right institution which should be mandated to teach or train people information literacy. The majority of the respondents 63% said all the mentioned institutions have the mandate, this means the faculties. Schools, public libraries, academic libraries, school libraries and special libraries should teach and train people to be able to survive infodemic. However, 8 (21%) emphasize that faculties and schools should take a lead in this area. Guo and Huang 2021 study reveal that librarians are supposed to be at the forefront in training students, faculty, and the general public on information literacy so as the masses can be able to sieve wrong information and use only the credible information in times of emergencies like COVID 19.

3.9 What measures would you recommend to enhance information literacy skills in the society especially during disease outbreaks?

The respondents were given an opportunity to qualitatively suggest or recommend measures to improve information literacy in the society especially during disease outbreaks. Below were the suggestions or recommendations given:-

1. To make information literacy a compulsory subject in primary to post primary levels of education. By this the foundation is laid for post-secondary acquisition. Not only to be taught in library and information science and mass communication fields.
2. Making use of the different medias radio, TV, Social media and newspapers as they are the most used now in public
3. Training members even during the outbreak in order to equip members who may not be knowledgeable in that area.
4. Look critically at all information then choose the one you think is appropriate. In case of doubt, consult.
5. Verification of the information and reliability of the source.

6. Information literacy should be included in school curriculum right from primary through to tertiary institutions
7. **The librarian's association eg CUUL should organise the training on information literacy.**
8. Encourage members of the society to learn how to get and use information well in their daily livelihood.
9. Consistent information should be provided with credible sources to avoid confusion.
10. Should equip the society with the necessary information at the right time.
11. National or global orientation to direct people to credible sources of information.
12. Access to information and literacy training should be absolutely free. The right to information must be guaranteed. Disperse of fake and inauthentic information must be criminalized.
13. Sensitize the society on how information is needed and used ethically for them to be able to recognize the relevant information.
14. Sensitize the society on how to recognize their information needs and use it ethically.
15. Having an earlier training, make it a must training for communities.

4.0 Practical implications, limitations of the study and areas for further research

This study brings into surface a practical implication to overcome infodemic in Uganda and beyond. Information literacy trainings should be included in the curriculum from primary level to higher institution of learning. In universities, information literacy should not only be included in Library and Information Science field but also in communication programmes and research methods. Information Service Providers should be mandated to sieve information that reach the public especially in times of emergencies like COVID 19 so that only credible information circulates. The right to information must be guaranteed. Disperse of fake and inauthentic information must be criminalized.

The limitation of this study like any research is that it was limited to a small population of only School of Mathematics and Computing at Kampala International University. It will yield better results if it is open to the entire Ugandan population, because everybody in Uganda was affected or effected by COVID 19 and infodemic in one way or another and needed authentic information to play safe during the pandemic. The researchers then recommend a bigger study on infodemic and the contribution of information literacy to be carried out in the entire country so that the findings can guide policy in Uganda. Furthermore, a study can be carried out to find out how people with disability, the elderly and those with burden of non-communicable diseases coped with infodemic and how information literacy in those difficulties would enhance their wellbeing and health during pandemics and emergencies.

5.0 Conclusion

The society is full of uncertainties and besieged with one pandemic or the order. Pandemic and other emergencies are here with us. Our work is to have strategic plans to cope up with any uncertainties. One of those strategies is to equip the citizenry with information skills through the teaching of information literacy skills from the grace root. Both adult, children and adolescence have the right for information to cope with effect of any pandemic or natural disasters. Children, youth, adults and the elderly and people of all social backgrounds will be better equipped to face the challenges of any pandemic if trained in information literacy skills. Both libraries of any kind, primary and secondary schools and schools of higher learning have the mandate to equipped the citizens with information skills that will enable them surf through the quantum of big data that are produced in trillions every second; identify facts from opinions and propaganda that fill the whole information landscape during pandemic like COVID-19. People also need to be equipped with

skills and knowledge on how to source for information, identify where to get the right information, evaluate the information, use it to solve their different information needs in ethical and legal ways. Until this is done, the whole citizenry will continue to be confused and frustrated in times of disaster and pandemic. The problem is not the big data around us, because it will continue to rise as long as we have accepted the new information and communication technologies in our society. But if citizens are taught information handling skills, they will be able to leverage the effects of infodemic during any emergency. Information and media literacy skills are the need of the hour. Let us not wait again for any emergency to occur before we start to impact the skills on the citizens.

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