COLLECTIVE INFORMATION LITERACY SKILLS OF STUDENT GROUPS DURING COLLECTIVE INFORMATION-SEEKING PROCESS IN RURAL VOCATIONAL TRAINING INSTITUTIONS

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Abstract:

This study aims to investigate the Collective Information Literacy (IL) skills of student groups in selected public and private vocational training institutions (VTI) in Tanzania's rural settings. Specifically, the study seeks to evaluate the informational literacy (IL) training students' groups receive for engaging in collective information seeking (CIS) in vocational educational training (VET) institutions in rural library settings and propose an appropriate model that improves the collective information seeking behavior of students' groups in rural libraries at VTI in Tanzania. Karunakaran, Spence, and Reddy's (2013) model anchored to conduct this study. The population of the study comprised selected VET students in Tanzania's rural settings. A purposive sampling technique was used to select the study participants. Specifically, the proposed study used convenience sampling to select VET students for inclusion in focus group discussions and interviews. The data for the study was collected through the use of observation, interviews and focus group discussions. Qualitative data was analysed through thematic analysis. The thematic analysis helped to develop different themes relating to the specific objectives of this study. IL skills were found to be the cross-cutting process among all VET students' groups during CIS. VET students' groups could not get the collective information

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requirements in the absence of IL skills, as it was mentioned by 17 respondents (90%). However, the application of other information-searching techniques is not familiar to VET student groups, like Boolean operators and truncation. Lack of IL skills among VET students' groups triggered by failure to retrieve complete required information to meet the collective information requirements for accomplishing the groups' assignments given. Lack of IL skills among VET students' groups on how to evaluate the sources of information on the internet and evaluating the massive retrieved information were the common aspects across all VET students' groups of different professionalism.

Keywords: Collective Information Literacy (IL) skills, collective information searching strategies, vocational institutions, rural library settings in Tanzania

1. Introduction

Information Literacy (IL) skills have arisen around the world as vital skills for the 21st Century. This is caused by the fast development of Information and Communication Technologies (ICTs) (Baro and Keboh, 2012). Students are faced with diverse and ample information choices in their academic studies. The available information is in unfiltered formats, thus raising the questions of its reliability, validity, accuracy and authenticity. IL skills are defined by CILIP (2012) as the ability to comprehend why and when someone requires information, where to find it, how to evaluate it and how to communicate it in an ethical manner. Information literacy (IL) skills are crucial during collective information seeking when students want to accomplish the groups' assignments. This IL entails recognising when information is needed and shared; it helps information seekers to efficiently locate, accurately evaluate, share, and use information efficiently and effectively in addition to clearly communicating it in various formats (Baidoo, Asare and Anafo, 2021). In fact, IL serves as the basis for lifelong learning and is essential in all academic levels and all learning environments (Faraji-Khiavi *et al.*, 2021).

Vocational Training Institutions (VTI)' students in rural Tanzania face the problem of failing to search, retrieve and share information to accomplish their assignments in library settings due to their inadequate information-seeking skills. In this regard, Wema (2021) found that higher-learning students in Tanzania largely failed to seek, retrieve, and share information to meet their information requirements because of inadequate information-searching skills. However, VET libraries provide information literacy education to different library users to meet their information requirements.

1.1 Problem Statement
Students of higher learning, in the context of Tanzania, were unable to locate, retrieve and share information due to the challenge of lack of information literacy (IL) skills to meet their information requirements. As such, Ndenje-Sichalwe and Elia (2020) call for training on information searching, knowledge mapping and problem-based learning

targeting postgraduate information studies students in Tanzania to empower them to seek, retrieve and share information for accomplishing assignments as required.

Lwehabura (2018), who assessed literacy skills among first-year postgraduate students in Tanzania, found that 15 (10.3%) of the students believed that searching for information from the online public access catalogue (OPAC) was complicated, and locating and retrieving books from shelves was problematic for nine (6.2%) respondents.

1.2 Aim and Objectives of the Study

The aim of this study is to investigate the collective information literacy (IL) skills of students' groups in vocational education institutions in Tanzania's rural areas. Specifically, the study seeks to:

1) Evaluate the informational literacy (IL) training students' groups receive for engaging in collective information seeking (CIS) in vocational educational training (VET) institutions in rural library settings,
2) Examine the information searching techniques used by students' groups to accomplish the assignments in rural libraries at vocational educational training (VET) institutions,
3) Assess the challenges associated with IL skills to VET students' groups during the CIS process.
4) Propose an appropriate information literacy (IL) skills model that improves the collective information seeking of students' groups.

1.3 Research Questions

1) What informational literacy (IL) training do students' groups receive for engaging in collective information seeking (CIS) in vocational educational training (VET) institutions in rural library settings?
2) What information-searching techniques are used by students' groups to accomplish the assignments in rural libraries at vocational educational training (VET) institutions?
3) What challenges are associated with IL skills to VET students' groups during the CIS process?
4) What is an appropriate information literacy (IL) skills model that can be recommended to VET students' groups during CIS?

2. Literature Review and Theoretical Underpinning

2.1 Collective Information Literacy (IL) Skills of Students' Groups

Information literacy (IL) skills are crucial during collective information seeking. This IL entails recognising when information is needed and shared; it helps information seekers to efficiently locate, accurately evaluate, share, and use information efficiently and effectively in addition to clearly communicating it in various formats (Baidoo, Asare and

Anafo, 2021). In fact, IL serves as the basis for lifelong learning and is essential in all academic levels and all learning environments (Faraji-Khiavi et al., 2021).

Chanda (2012) observes that, despite the forms of IL being offered, the students in higher learning institutions in Botswana graduate with low IL skills. The students did not grasp the various IL aspects and, as a result, they could not apply them in their research (Chanda, 2012). Furthermore, Chanda (2012) reports that some participants lacked computer skills and did not even know what information was available for them to retrieve and utilise. Participants also reported that, they were unable to access information because of a lack of knowledge on using modern technology (Chanda, 2012).

Also, Mason (2019) found that first-year college students in California in the United States developed limited topics and, sometimes, ended up with too much information that overwhelmed them so much that they were unable to differentiate between major and minor points. In a study that was conducted in Taiwan, Cheng and Tsai (2017) found that online research behaviours of engineering graduate students had achieved an overall mean score of 53.39, which was below a recommended acceptable score of 60 or 70 advocated in several previous IL studies. The undergraduate and postgraduate students in the United Kingdom also had difficulty when it came to identifying salient information from task narratives grasp on the the use of reference sources; moreover, they even failed to distinguish between a fact and opinion, as Bickley and Corral's (2012) study was able to establish.

Overall, studies conducted in Botswana, the United States, and Taiwan (Chanda, 2012; Pitocco, 2013; Avula, 2020; and Cheng and Tsai, 2017) concluded that students did not have the requisite IL skills to meet their information requirements. The information users failed to get IL education in the absence of ICT devices in their respective localities. This aspect calls for a need to systematically study the IL capacity and aptitude of students' groups at vocational training institutions during the information-seeking process at rural libraries to investigate how they seek, retrieve, and share information to accomplish collective assignments.

Oyemo and Asiyanbi (2020) found the types of IL courses offered to Polytechnic of Ibadan students in Nigeria to include Orientation programmes, User education programmes, library tours and sensitisation, teaching on library use, referral services and current awareness that helped students in seeking and retrieving vital information.

Lwehabura (2018), who assessed literacy skills among first-year postgraduate students in Tanzania, found that 15 (10.3%) of the students believed that searching for information from the online public access catalogue (OPAC) was complicated, and locating and retrieving books from shelves was problematic for nine (6.2%) respondents. However, Klomri and Tedre (2021) found the number of postgraduate students at the University of Dar-es-salaam in Tanzania mentioned PDF documents as trustworthy, as one student explained: "*First you enter your words and then 'PDF', then you click 'Search', and the information that appears there is trusted.*" Moreover, the high number of students who claimed they did not evaluate digital information was astonishing (Klomsri and Tedre, 2021). Similarly, undergraduate distance learning students in Tanzania contended

with the problems of lacking awareness of online resources and skills for them to search on the web effectively (Luambano, 2016).

Similarly, undergraduate distance learning students in Tanzania contended with the problems of lacking awareness of online resources and skills for them to search on the web effectively (Luambano, 2016).

The literature reviewed on IL finds the following: Firstly, IL had been marginalised in the teaching of many IOHLs. Secondly, IL is being offered in some institutions but without equipping students with the requisite IL skills. Thirdly, the IL ought to be mandatory in educational institutions of higher learning. Fourthly, there is need to restructure the learning process to reflect the utilisation of information in the real world.

The central finding in this section of the literature review is that, IL skills are centripetal during information seeking in enabling students to seek, locate, retrieve, evaluate, share and utilise information to meet their information requirements.

2.2 Information Searching Techniques of Students' Groups

Malanga and Jorosi (2018), who assessed IL skills among undergraduate students at the University of Livingstonia in Malawi focusing on second-years, found that they generally lacked skills in information search and web retrieval techniques.

Similarly, Avula (2020) found a well-documented problem in information-seeking since the information users in North Carolina failed to adequately translate their information requirements into an effective search request.

Furthermore, Al-Qallaf (2018), who assessed IL skills among master's degree students at Kuwait University found that, they were unable to identify key concepts, had weak knowledge of information management systems, and lacked construct effective search strategies in addition to lacking understanding of the scope and purpose of information sources, let alone determine the quality of sources.

2.3 Information Literacy (IL) Programmes for Students' Groups

Safdar and Idrees (2021) further suggest that there was a dire need to launch IL programs for students aimed to meet their academic requirements when assessing undergraduate and postgraduate students' IL skills in Pakistan.

Chanda (2012) also found that IL education had remained a non-priority area in many institutions of higher learning (IOHL) and, in many cases, was not even taught as effectively as it should be. IL needs to be integrated into the undergraduate curricula in a bid to help students seek, retrieve, and utilise information efficiently and effectively (Chanda, 2012). Chanda's (2012) study in Botswana exposed the weakness of many of the institutions of higher learning in Sub-Saharan Africa in the failure to execute IL education for students' higher learning that would help them seek and retrieve information to add value to their studies.

Africa when Desta, Preez and Ngulube (2019) investigated the factors influencing the information-seeking behavior of postgraduate students. Flywell and Chigona's (2019)

investigation on the digital information literacy (DIL) skills of first-years in Malawi at the University of Livingstonia found low effective DIL programmes for students. Thus, librarians, as custodians of knowledge should carry out advocacy and awareness drives on emerging technologies to integrate them into these DIL programmes.

2.4 Theoretical Underpinning
2.4.1 Karunakaran, Spence, and Reddy's (2013) Model

Karunakaran, Spence, and Reddy's (2013) model has three phases of group-based information activities: Problem identification; three micro levels comprising seeking, retrieving and sharing; and information use that allows the information generated in the first two stages that were collectively compared and evaluated for a common understanding and usage to materialise.

The first phase of Collective Information-Seeking Behaviour (CISB) entails problem identification, which allows information seekers to identify their collective information requirements based on their common understanding. In an institution, people usually solve problems or meet information requirements and produce a shared representation of the problem to solve them via collective communication. A shift from individualised information-seeking activities to CISB was induced by a lack of domain capability, complexity of the information requirements, and fragmented information resources due to a lack of readily accessible information. In the second stage of activity, people's collective information-seeking behavior helped to solve complex problems and achieve the shared goal. Their model was based on the premise that CIS comprised three micro levels: seeking, retrieving and sharing information. In the final stage, the information obtained in the first two phases was also collectively compared and evaluated to develop a common understanding and use.

This study applied this model primarily because it delineates the challenges information users face during the collective information-seeking process (as in stage three which indicates unmet information requirements of the users group). This study was guided by Karunakaran, Spence, and Reddy's (2013) model because the model reveals aspects of collective information seeking and challenges faced by information seekers when seeking, retrieving, and sharing information collectively. Despite many models of collective information-seeking behaviour, Karunakaran, Spence, and Reddy's (2013) model emerged as the prime model of choice and has been widely used. Also, the model of Karunakaran, Spence, and Reddy's (2013) has been applied since it related to the aims of this study, which needed to probe the collective information seeking (CIS) of information seekers and challenges information seekers face during collective information seeking, retrieving, and sharing. This study was guided by Karunakaran, Spence, and Reddy's (2013) model, as Figure 1.1 below illustrates:

Figure 1.1: Karunakaran, Spence, and Reddy, 2013
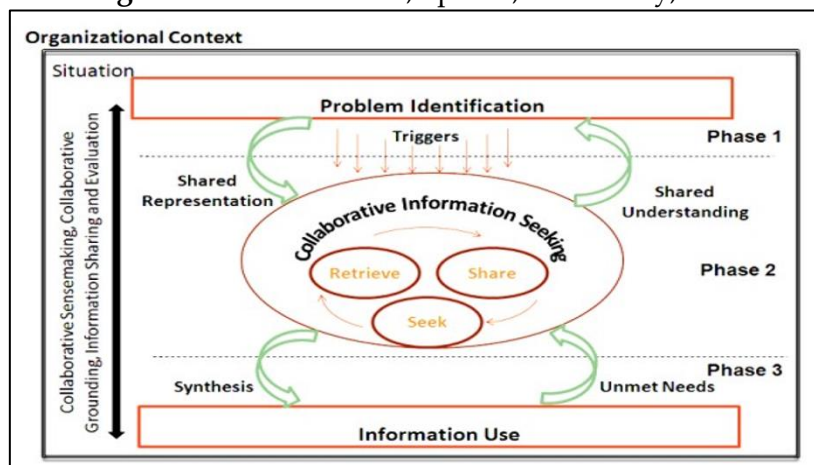
Source: Karunakaran, Spence, and Reddy, 2013

3. Research Methodology

3.1 Research Design
This study employed descriptive approaches. Qualitative research serves to develop a rich and detailed understanding of certain theories, concepts, and constructs. This method also provided all-inclusive and complete views of group behaviour of information sharing during the collective information-seeking process and increased the validity of the research results using descriptive data and methodological triangulation. Moreover, the qualitative method accords the researcher an opportunity to interpret reality as it is observed in its specific context (Thomas, 2021). As qualitative research permits scholars to obtain a rich and profound comprehension of how a certain theory occurs (or does not occur) in practice, these methods allow complex issues to be evaluated in ways that quantitative methods cannot uncover (Aguinis *et al.*, 2020). More specifically, qualitative methodologies allow researchers to observe explanations for a phenomenon assigns in-depth meanings to their findings that are not possible through the aggregated quantitative results (Kouamé and Langley, 2018).

3.2 Population and Sampling
The population of the study comprised VTI final-year students in Tanzania's rural districts. Final-year students from three (3) VTI institutions amount to 259. Final-year students were included in this study since they are expected to be more experienced in seeking, retrieving, and sharing information. The study recruited 72 participants from second year in VET institutions in Tanzania's rural areas: 18 VET students for interview, 18 VET students for observation and 36 VET students for focus group discussion (FGD). From the outset, the respondents were briefed beforehand about the study in line with established research protocols. Thereafter, the participants had to sign consent forms after briefings for them to provide informed consent. The VET interview participants of three (3) pairs in each VET institution who signed up were given the group's task to

accomplish. They are required to be familiar with the use of digital libraries. Ten (10) VET students (56%) were male, and eight (8) VET students (44%) were female during the interview and focus group discussion. The participants were between 21 and 30 years old. Convenience Sampling Technique was used to select participants. A convenience sample is one that is drawn from a source that is conveniently accessible to the researcher (Andrade, 2021). Convenience sampling is a non-probability sampling that is often used for qualitative research (Stratton, 2021). The participants were randomly chosen from those who expressed their interest to reach 72 participants. The participants chose the day and time convenient to them for their sessions. Then, they performed two collective information-seeking tasks during collective information seeking (CIS) on the internet.

3.3 Instrumentation, Data Collection and Analysis

The data for this study was collected through the use of observation, interviews and focus group discussions. Observation checklist, Interview guide and focus group discussion guide used to collect data from VET participants. Face-to-face interviews present an advantage because physical conversational meetings can enhance the possibility of creating a safe and comfortable atmosphere for the interviewees to express their views (Saarijarvi and Bratt, 2021). In this regard, Basil (2019) contends that FGDs are advantageous because they constitute expressive collecting data means that yield a lot of information in a relatively short time; the method is, in fact, a resource-saving data collection approach appropriate for investigating the reality of life and experiences of the respondents (Seven *et al.*, 2021). Moreover, Observation, as a data collection method, allows the researcher to witness interactions of the study participants as they perform tasks (Marwa, 2017) of interest to the study in accordance with the research objective and research problem.

The qualitative data obtained during the focus group discussion, interview and observation were analyzed using the thematic analysis technique using the NVivo software. Qualitative data was analysed through thematic analysis. However, thematic analysis helped to develop different themes relating to the specific objectives of this study. For conducting the thematic analysis process for this study, five steps were identified according to Manyerere (2015), namely: familiarization with data, generating initial codes, searching for themes, defining and naming themes, and producing the final report.

## 3.4 Hypothesised Model of IL Skills to VET Students' Group during CIS

The proposed model of this study comprised three (3) phases and was modified from Karunakaran, Spence, and Reddy's (2010) model. Thus, Karunakaran, Spence, and Reddy's (2013) model anchored to conduct this study on collective information literacy (IL) skills of VET students' groups during the CIS process.

Phase one of the model represented the information requirements of students' groups seeking information collectively to satisfy their group information requirements. Students' groups looked for collective information to accomplish the group assignment.

This phase entailed collective problem identification of the collective assignment whereby students' group identified their collective information requirements to finish the group's assignment. Phase two showed collective information sharing in the presence of collective information literacy (IL) skills of the group, allowing information to be shared within the group upon its retrieval during the collective information-seeking process. During this phase, the groups shared information to have a common understanding for all members for solving the collective assignment. The information was then collectively retrieved and shared when the students' group had information literacy (IL) skills at their disposal, such as information searching strategies to meet their information requirements.

Also, groups could effectively retrieve information if there were no challenges (lack of information literacy skills) they encountered during the collective information-seeking process. Otherwise, any challenges the group encountered during the collective information-seeking process could torpedo the collective assignment. However, the challenges the students' group encountered, made the group not reach phase three of the final stage in the series, which could be attributable to a lack of information in solving the problem identified in phase one. The retrieved collective information is essential in solving problems associated with the shared groups' assignments. If the group faced any challenges (lack of IL skills) during the collective information-seeking process, it would have a group to restart the process of collective information-seeking all over again, which naturally would prevent them from reaching the pinnacle of such search phase three. After all, this final phase required students' groups to collectively seek information to solve the problems associated with their shared assignment when VET students' groups required to retrieve collective information, which this phase could engender to enable students' groups to accomplish group's assignments. Figure 1.2 below presents the proposed model of collective information-seeking behaviour:

Figure 1.2: Hypothesised Model of IL Skills to VET Students' Group during CIS
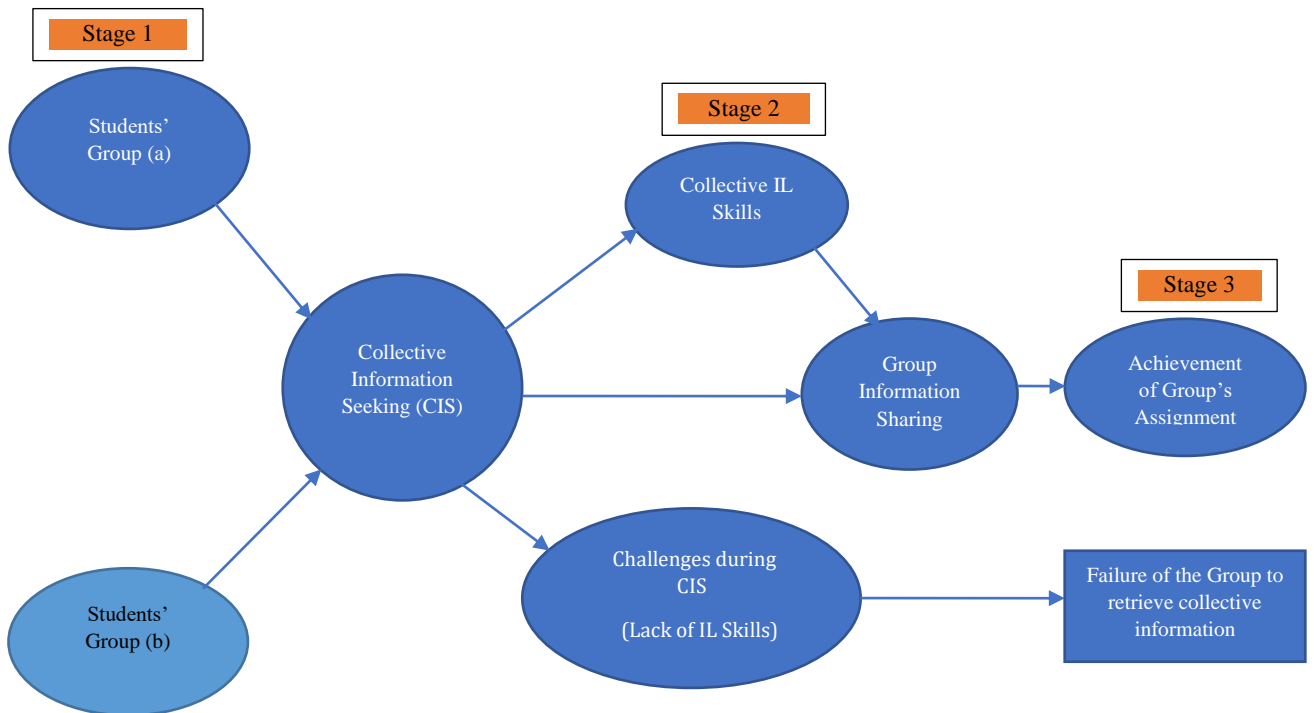
4. Results

4.1 Information Literacy (IL) Training Library Provided to Students' Group

VET respondents were questioned during the interviews about what information literacy (IL) education did their library provide. The results of the interview data on the IL education given to VET 'respondents at colleges A, B, and C are displayed in Table 1.1 below:

Table 1.1: Students' Groups in VET Institutions Received IL Education

SN	Information Literacy (IL) Education	VET Institutions (N = 18)		
		College A	**College B**	**College C**
1.	Evaluating sources of information and collective retrieved information	0 (0%)	0 (0%)	0 (0%)
2.	Internet searching	5 (28%)	5 (28%)	8 (44%)

Source: Field Data, (2023).

Table 1.1 above showed that A total of 5 (28%) VET' respondents from college B in the Babati area and 8 (44%) from college C in Lushoto indicated that, they had received instruction in IL related to conducting online searches for information. VET respondents reported that, they had not received instruction in evaluating information by zero percent

(0%). However, interview findings showed all VET institutions A, B and C did not receive any instruction on how to evaluate information sources (0%, n=0) or retrieved data (0%, n=0) for groups' assignments.

4.2 Students' Group Information Searching Strategies

It was established during interviews that, VET respondents in all VET' institutions A, B and C applied different information-searching strategies, as shown in Table 1.2 below:

Table 1.2: Interview Findings on How Students'
Groups Applied Information Searching Strategies

SN	Collective Information Searching Strategies	VET Institution (N = 18)		
		College B	College A	College C
1	Application of key words in the sentence or query	3 (50%)	3 (50%)	3 (50%)
2	Application of related words	0 (0%)	1 (17%)	1 (17%)
3	Application of subject headings	3 (50%)	2 (33%)	2 (33%)
4	Application of truncation	0 (0%)	0 (0%)	0 (0%)
5	Application of Boolean Operators and Synonymous words	0 (0%)	0 (0%)	0 (0%)
	Total (N) = 18	n=6	n=6	n=6

Source: Field Data (2023).

The findings in Table 1.2 above show that VET respondents applied some of the information-searching strategies to accomplish their groups' assignments to all VET institutions in college C in Lushoto district, VET institutions in college B in Kondoa district and VET institutions in college A in Babati district. Table 1.2 above illustrates colleges A, B, and C applied more keywords by three (50%) during CIS. Neither truncation 0 (0%) nor Boolean operators 0 (0%) was applicable since the information search strategies were applied by all the VET respondents during CIS in colleges A, B and C.

During the FGD, they said that they collectively searched for information using keywords and subject headings as the search queries in the library. The collective information they searched for was on the types of cracks that normally occur on the walls. These types of wall cracks can cross across the blocks of the wall or follow the space in between the blocks. One of the respondents explained during the FGD:

"Searching for information using keywords and subject headings as the search queries helps us, as a group, to get important information for accomplishing the groups'

assignments on the cracks that can be avoided by having information on the concrete foundation".

VET respondents were also observed not familiar with the application of other advanced information searching techniques like using of Boolean operators and truncation. Moreover, VET respondents from all investigated VET courses were observed not using any criteria for selecting information sources on the internet. VET respondents were also not using any criteria for evaluating massive retrieved information to meet their groups' information requirements.

4.3 Barriers Encountered by Students' Groups during Collective Information Seeking (CIS)

This study was required to determine barriers faced by VET students' groups during the collective information-seeking (CIS) process in VET institutions. The interview findings obtained through the interview, focus group discussion (FGD) and observation revealed the following key barriers during the CIS process:

1) Low IL skills among VET students' groups members,
2) Lack of access to ICT equipment among VET students,
3) Unavailability of e-resources,
4) Unreliable internet to rural VET institutions,
5) Frequent electricity cuts that hinder CIS since the rural VET institutions do not have stand-by generators for VET students to access E-resources,
6) Disagreement on the selection of information among the massive information collected from VET students' groups' members, and
7) Absence of subjects librarians who are required to assist VET students' groups during CIS.

5. Discussion

5.1 Information Literacy Training Students' Groups Receive

Students' group of the domestic electrical installation course of VET institution in college A in Babati district during interview confirmed that they received only IL training on searching information on the internet. However, VET students' groups in rural settings during the interview revealed that they were not trained on how to evaluate sources of information and retrieved information during CIS. The VET respondents in the course of auto-electrical installation and domestic installation in college C in Lushoto district during the interview also declared that they did not receive the IL training on how to evaluate information (0%, n=0). (28%, n=5). VET respondents during the interview in college B in Babati district also confirmed that they received IL training on searching information on the internet, while in college C in Lushoto (44%, n=8) confirmed that they received IL training on searching information on the internet. However, respondents from all VET institutions, when interviewed, confirmed that, they were not trained on

how to evaluate sources of information and retrieved information when given groups' assignments to accomplish by (0%, n = 0). Moreover, the high number of students who claimed they did not evaluate digital information was astonishing (Klomsri and Tedre, 2021). VET libraries in colleges A, B and C are required to provide IL training to VET students' groups to accomplish the groups' assignments given. These findings concurred with Zhang (2020), who recognized the importance of library user instructions to business students in Singapore in finding information from different subjects. Safdar and Idrees (2021) further suggested that there was a dire need to launch IL programs for students aimed to meet their academic requirements when assessing undergraduate and postgraduate students' IL skills in Pakistan. The findings were consistent with Mwinyimbegu (2018), who stressed that training is very important when it comes to accessing information such as Open Educational Resources (OER) because it equips library users with effective lifelong skills in information searching, evaluation and use in public university libraries in Tanzania. Academic libraries play an important role in supporting the development of Virtual Learning Environments (VLEs) in academic institutions by providing access to electronic resources (Radhakrishnan and Alagumalai, 2020). Electronic teaching and learning systems referred to here as virtual learning environments (VLEs). Developing web-based information literacy programmes that reflect aspects of collaboration and problem-based learning is considered vital in creating lifelong and independent learners. This is because such courses create learners with transferable, experiential and dynamic learning abilities (Fidan and Tuncel, 2019). Flywell and Chigona's (2019) investigation on the digital information literacy (DIL) skills of first-years in Malawi at the University of Livingstonia found similar challenges in low effective DIL programmes for students.

Moreover, other aspects, including a lack of expertise in ICTs, a heavy workload and a shortage of staff, are contributing factors in hindering the developing of information literacy courses for students through virtual learning environments in Tanzania (Kampa, 2017).

Nevertheless, with reference to the aforementioned hindrance in providing IL training in VET rural libraries to VET' students' groups, the need for rural VET libraries to develop IL training programmes for VET students' groups is worth noting. Information literacy provides a basis for lifelong learning, and it is essential for all academic levels and all learning environments. The researcher witnessed the investigated VET courses trained on how to search for information on the internet.

5.2 Information Searching Techniques

Neither truncation 0 (0%) nor Boolean operators 0 (0%) was applicable since the information search strategies were applied by all the VET respondents during CIS in colleges A, B and C. VET students in colleges A, B and C required skills on information searching techniques to accomplish groups' assignments given.

Similar findings of Foo *et al.* (2013) showed that social science tertiary students in Singapore scored higher in areas related to "task definition," "information searching

strategy," and "location and access." These are skills that can be taught more systematically, for example, in Library and Information Studies (LIS) instructional programs in Singapore offered by libraries or acquired over time through practice and the information obtained was used in completing the students' academic assignments and project works (Foo *et al.*, 2013). VET students' groups required information searching techniques from VET libraries as the paramount aspect to accomplish the groups' assignment given. Gutiérrez (2014) found similar findings that librarians in the United States of America should be part of the collaborative process to teach students information-searching strategies.

Furthermore, Chanda (2012) investigated the need for information-searching education in institutions of higher learning in Botswana. Chanda (2012) showed that, undergraduate students did not understand the various aspects of information-searching strategies and could not apply them in their research processes. Klomsri and Tedre (2016) investigated poor information-searching strategies and practices as barriers to academic performance among to postgraduate students at the University of Dar-es-Salaam (UDSM). Klomsri and Tedre (2016) found that information-searching techniques have become increasingly important in the present-day environment of rapid technological change and the growing amount of information resources due to computerization. Individuals are faced with diverse and often unfiltered information choices, which raise questions about authenticity, validity, and reliability (Klomsri and Tedre, 2016). VET students' groups meet their collective information requirements when they have the necessary information searching techniques for accessing required information during CIS. Faraji-Khiavi *et al.* (2021) summarized that information-searching strategies have been defined as a person's skill in identifying his/her information requirements and capability in organizing, evaluating and using information effectively.

5.3 Barriers Encountered by Students' Groups during Collective Information Seeking (CIS)

5.3.1 Low IL skills among VET students

Face-to-face interviews revealed low IL skills, which was revealed by the majority (90%, n=17) of VET students' groups members as the major challenge to meet their groups' information requirements during CIS. Similarly, findings by Luambano (2016) showed that, undergraduate distance learning students in Tanzania contended with the problems of lacking awareness of online resources and skills for them to search on the web effectively. Reviewed literature found that, IL education had remained a non-priority area in many institutions of higher learning (IOHL) and, in many cases, was not even taught as effectively as it should be.

5.3.2 Lack of Access to ICT equipment

Lack of access to ICT equipment (16.7%, n=3) to rural VET institutions of college C in Lushoto district, college A in the Babati district and college B in Kondoa district was mentioned as the major challenge during face-to-face interview. The computers were not

enough for all students to access information during CIS. Students' groups from colleges A, B and C were forced to access computers in shifts to accomplish their groups' assignments. Thindwa, Chawinga and Dube (2019) reported similar findings to this study that undergraduate security students in Malawi faced the challenge of a shortage of computer laboratories for academic activities, accomplishing assignments, preparing for their examinations and completing research projects.

5.3.3 Unavailability of E-Resources

The FGD findings from VET colleges B and C revealed that, there were no electronic reference information materials for their courses to be referred to when VET students' groups were given groups' assignments to accomplish. FGDs showed that VET respondents failed to accomplish the given groups' assignments on time due to the unavailability of required electronic information resources. These findings are consistent with He (2012), who stated that undergraduate students in China and the United States of America used different electronic information resources for various academic tasks. Different electronic information sources were compulsory for VET students' groups to accomplish their collective assignments.

5.3.4 Unreliable Internet to Rural VET Institutions

Unreliable internet to rural VET institutions (28%, n=5) was one of the major challenges that the VET respondents mentioned during interviews conducted in colleges A, B, and C. VET respondents from colleges A, B and C admitted that, unreliable internet hindered them from meeting their collective information requirements during CIS in VET rural' libraries. These findings concurred with those of Mwinyimbegu (2018), who showed that inadequate bandwidth (67.3%, n=35) among selected public university libraries in Tanzania hindered library users from meeting their information requirements. Similar findings by Liman (2020) showed (46%, n=39) of respondents reported poor provision of library services was caused by poor internet services among academic libraries in Gombe State in Nigeria.

5.3.5 Unreliability of Electricity

During the FGDs, VET students mentioned power cut and unreliability of the electricity supply hindered access to information during CIS. Similar findings from Nihuka and Voogt (2012) noted the power cut, unreliability in the electricity supply and narrow bandwidth were experienced as a challenge by all instructors when investigating collaborative e-learning at the Open University of Tanzania.

5.3.6 Disagreement on Selection of Appropriate Information

There was a massive amount of information retrieved on the internet during CIS when VET students' groups were given collective assignments to accomplish from colleges A, B and C. The observation findings showed that, VET students' groups' members of colleges A, B and C failed to evaluate massive retrieved information. The disagreements

on which information was suitable for their queries were the main challenge to VET respondents in selecting appropriate information. Observation findings with Cheng (2017) revealed that, specialized training for preparing novice researchers in Taiwan critically required to evaluate relevant information or scholarly work to fulfill their research purposes.

5.3.7 Absence of Subjects Librarians

The interview findings revealed that the respondents from VET students' groups mentioned the absence of subjects librarians (61%, n=11) during CIS was among the hindrances to meet their collective information requirements. Saleh and Large (2011) concurred with the findings from Fena (2020), showed that choral directors in New York required librarians and other information professionals to help the group (choral directors) to use the required information to discover new repertoire, plan concert programs, improve rehearsals and support other relevant activities.

6. Conclusions and Recommendations

6.1 Conclusions

IL skills were found to be the cross-cutting process among all VET students' groups during CIS. VET students' groups could not get the collective information requirements in the absence of IL skills, as it was mentioned by 17 respondents (90%). However, the application of other information-searching techniques is not familiar to VET students' groups, like Boolean operators and truncation. Lack of IL skills among VET students' groups triggered by failure to retrieve complete required information to meet the collective information requirements for accomplishing the groups' assignments. Lack of IL skills among VET students' groups on how to evaluate the massive retrieved information was the common aspect across all VET students' groups of different professionalism. The basis of the investigation has been framed by comprehending IL skills as the vital aspect for VET students' groups in accessing required collective information requirements during the CIS process. It was noted that, IL skills used by VET students' groups during the CIS process played a significant role in accomplishing groups' assignments. IL skills used by VET students' groups acted as the catalyst during the CIS process. Moreover, the study findings of this study also explored the critical link between the CIS of VET students' groups, information searching strategies and IL skills used to solve the problems of assigned groups' tasks. The findings revealed that, it is vital to have a CIS policy to assist VET students' groups during the CIS process. Failure to have a CIS policy in place leads to VET students' groups not getting the required collective information requirements to accomplish the given assignments. Hence, considering the importance of the required IL skills aspect during the CIS process, triggers to CIS policy formulation for VET students' groups in rural areas.

6.2 Recommendations

Based on the findings, comments and conclusions of the study, the following recommendations are made according to whether they are connected to practice or policy. The recommendations in this section give some directions about how the issues highlighted in the findings and conclusion should be tackled. With these recommendations, it is expected that all stakeholders (VET students' groups, VET library management, and librarians) ensure VET students' groups apply IL skills to meet their collective information requirements during the CIS process.

Therefore, this study successfully contributes to the theory by identifying new constructs (IL skills) used during CIS to accomplish groups' assignments given to VET students' groups in rural areas. The recommendations were as follows:

1) IL skills were required by VET students' groups to accomplish groups' assignments given. VET students' groups required IL skills to get the required collective information requirements for groups' assignments.

2) IL skills need to be taught as compulsory subjects to VET students' groups in the first year and second year.

3) The marks need to be awarded to VET students' groups during special programmes offered in VET library settings on IL learning to boost VET students' groups' seriousness during IL learning.

4) In order to address the issue of IL skills to VET students' groups during the CIS process, FGD findings recommended VET rural libraries organize seminars/conferences for training VET students' groups, especially on how to evaluate both sources of information and retrieved massive information on the net. Hence, the positive perceptions towards IL skills during the CIS process triggered to VET students' groups to meet their collective information requirements. Thindwa Chawinga and Dube (2019) recommended that Mzuzu University Library and the Department of Information Science in Malawi introduce information literacy courses with a major component in searching and evaluating online information resources. This was validated by the study done by Cheng and Tsai (2017) who asserted that specialized training for preparing novice researchers to critically evaluate relevant information or scholarly work to fulfill their research purposes is required.

5) Interview findings suggested VET rural libraries impart skills in other information searching techniques like Boolean operators and truncation, which were not familiar to VET students' groups in meeting their collective information requirements.

6) FGD recommended on imparting VET students' groups with IL on information searching techniques to avoid time lapses in getting the required collective information requirements for groups' tasks.

7) Interview findings advised VET rural libraries to introduce IL programmes for VET students who came directly from primary and secondary schools to get more practical experiences. IL programmes assist all VET students to have equal

experiences to those who started from certificate level on professionally offered courses at VET institutions. The respondents also have the opinion that once all VET students' groups' members have equal experiences in their professional courses, it could boost even their IL skills because they would have equal understanding. This assists VET students' groups in comprehending better what information is best required for their groups' tasks.

8) IL skills are required to emphasise to all VET students' groups to understand the criteria used for selecting and evaluating information sources. Understanding better the criteria for selecting information sources ensures VET students' groups meet their collective information requirements. Similar findings from Faraji-Khiavi *et al.* (2021) showed that information literacy has been defined as a person's skill in identifying his/her information requirements and capability in organizing, evaluating and using information effectively.

9) Interview findings recommended IL programme to be taught to VET institutions and to be evaluated from time to time. Evaluating IL skills to VET students' groups helps to test the understanding of IL skills lent in classes. Information literacy programme should be organized in the library to make students empowered to search for required information in the proper way (Boruah and Chotia, 2021).

10) There is no doubt that VET students' group in VET rural areas require CIS policy during the CIS process. FGD findings revealed that, it is vital to have a CIS policy to assist VET students' groups during the CIS process. Failure to have a CIS policy in place leads to VET students' groups not getting the required collective information requirements to accomplish the given assignments. Hence, considering the importance of required IL skills aspect during the CIS process triggers to CIS policy formulation for VET students' groups in rural areas.

Data Availability
Data support the findings of this article and is available on request from the authors. Data are not publicly available because they contain information that could compromise the privacy of research participants.

Authors' Contribution
Sefu H. Abeid analysed, presented and discussed data for this manuscript. Prof. Boemo N. Jorosi and Dr. Neo P. Mooko validated the results, guided, edited and revised this study.

Disclaimer

The views and opinions expressed in this article are those of the authors and are the product of professional research. It does not necessarily reflect the official policy or position of any affiliated institution, funder, agency or that of the publisher. The authors are responsible for this article's results, findings and content.

Ethical Statements

From the outset, the respondents were briefed beforehand about the study in line with established research protocols. The respondents assured that the results were not disclosed to any third party and were used only for academic purposes. This study maintained high standards of personal conduct, practicing honesty in all our professional relationships and endeavors. Thereafter, the participants had to sign consent forms after briefings for them to provide informed consent.

Conflict of Interests Statement

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

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