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Enhancing Integration of Information Literacy in TVET Curriculum in Response to COVID-19 Pandemic Effects

Jane Wanjiru Njuki & Rose M. Mukundi



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Jane Wanjiru Njuki^{1*} & Rose M. Mukundi²
¹PhD Student Murang'a University of Technology
²Msc Library Science, The Nyeri National Polytechnic



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Abstract

Purpose: Information literacy refers to the set of characteristics that enables ordinary learners become wise information consumers and lifelong learners. The set of abilities or skills the learner requires in order to determine information needs, locate, access and evaluate information sources and effectively use resources regardless of the format. There is global acceptance of the need for information literacy among trainees undertaking Technical and Vocational Educational Training (TVET). Integrating information literacy in the Competency-Based Education and Training (CBET) curriculum has become a necessity. The purpose of this study was to investigate how TVET trainees applied information literacy during the COVID-19 pandemic. The objective was to ascertain the trainees' uptake of e-learning and establish the strategies laid down for integration of information literacy in TVET curriculum.

Methodology: Descriptive research design was adopted. The Nyeri National Polytechnic was purposively sampled due to the availability of respondents and familiarity of the researcher to object of research. A target population of 1000 library users at diploma, certificate and artisan levels was used. Data was collected using

researcher-administered questionnaire. Data was organized and analysed using frequency distribution, percentages and mean.

Findings: TVET Institutions were found to have moderately adopted integration of information literacy in TVET curriculum. The results indicate that 54% of trainees applied information literacy skills during the virtual learning sessions during COVID-19 pandemic. However, inadequate information literacy among trainees contributed to non-effective use of the e-resources.

Unique Contribution to Theory, Practice and Policy: To this end, TVET institutions need to put in place strategies for enhancing integration of information literacy in TVET curriculum. The strategy on orientation and continuous user education by librarians aims at improving the trainees' information literacy. Trainees stand to benefit through integration of information literacy in the curriculum and institutions should put in place mechanism to adopt this integration.

Keywords: *Information, Literacy, Integration, Curriculum, Technical Vocational Education Training (TVET), Competency Based Education Training (CBET)*

1.0 INTRODUCTION

Information literacy (IL) refers to the set of characteristics that enables ordinary learners become wise information consumers and lifelong learners. The set of abilities or skills the learner requires in order to determine information needs, locate access and evaluate information sources and effectively use resources regardless of the format. IL is further defined as a "set of integrated abilities encompassing the reflective discovery of information, understanding how information is produced, valued and used in creating new knowledge the (Association of College and Research Libraries, American Library Association, 1989, p. 3). Other scholars describe IL as a practice embodied in social setting comprising a suite of activities and skills referencing structured body of knowledge relevant to the context (Lloyd, 2017; Lloyd and Hicks, 2021).

The United Nations Educational, Scientific and Cultural Organization (UNESCO) advocates for introduction of IL within national curricula including tertiary, non-formal and lifelong education programs (UNISIST Newsletter, 2003, p. 19). This will help in alleviating information retrieval problem which is a worldwide phenomenon. A lot of information exists within institutions of higher learning in Kenya both in physical and electronic formats. Consumption of these information by learners is limited due to lack of information retrieval knowhow. In response to this, TVET standards for National Polytechnic requirements and guidelines (TVETS 04:2019) were established requiring librarians to partner with departments and draw well-structured information literacy programme to enable learners acquire information literacy for lifelong learning. Student's skills are usually improved by integrating information literacy into the curriculum as shown in a study carried out by Okenji, et al (2020). IL is said to be a basic human right in a digital world and is capable of promoting social inclusion in all nations.

In this Information Age where information is voluminous, greatly valued and the velocity of access is quite high. This has been accelerated by the presence of Internet, television, radio, and other information resources. However, the ease of access and availability of information does not guarantee its authenticity making it quite difficult or harder for consumers to select relevant information (Yan et al., 2017). Information Literacy skills enables learners to ask and answer questions related to credibility of information requiring them to be multi-literate by being equipped with critical information literacy (Singh, and Kyle, 2021). IL skills not only motivate them to become lifelong learners but they flourish them personally and professionally in this information age.

Integration of IL in TVET curriculum is important for today's learners because it promotes problem solving approaches and thinking skills. (Ngo et al, 2020) in his study revealed that IL skills enable learners to choose the best information for their decisions. It extends learning beyond formal classwork. IL allows the learners to self-drive themselves into various opportunities as well as engaging themselves in a wide variety of information sources. To address the problems generated by social media of too much information, researched literature by (Lee et al., 2020; Yan et al., 2017) highlights the importance of consumers' effective management of the available information and in particular, information literacy self-efficacy.

Problem Statement

There is a global acceptance of the need for information literacy among learners undertaking Technical and Vocational Educational Training (TVET). Association of College and Research Libraries (ACRL) recognizes the need for learners to acquire set of abilities to identify information need, locate, evaluate and use resources effectively. Acquisition of IL enables learners to develop self-regulation skills, identify existing opportunities, and learn on real time. However, Information Literacy (IL) instruction in academics is still not an integral component especially in TVET programs. Therefore, there is need to integrate IL to enable learners gain the requisite abilities for recognizing when they need information, ability to locate, evaluate, and use information resources effectively.

Purpose of the Study

The purpose of this study was to investigate how TVET trainees applied information literacy during the COVID-19 pandemic.

Specific Objectives

The study was guided by the following specific objectives;

1. To find out how the trainees adapted to virtual learning during COVID-19 pandemic.
2. To establish the strategies laid down for integration of information literacy in TVET curriculum.

Research Questions

1. How did TVET trainees adapt to virtual learning during COVID-19 pandemic.
2. What are the strategies laid down for integration of information literacy in TVET curriculum?

Justification

IL being a basic human right in a digital world equips the learners with skills to define information need, lay down information seeking strategies, locate and access information easily. Also, the learners need to make use of the accessed information, synthesise and evaluate the acquired information effectively. IL enable diversification of skills delivery through the internet hence enhancing lifelong learning. The availability of global standards and national policies necessitates the integration of IL in TVET curriculum.

2.0 LITERATURE REVIEW

Integration of information literacy into learning programme is a component of the “Experimental World Literacy Programme” (EWLP) which is a joint collaboration between UNESCO and United Nation Development Programme (UNDP) and other national governments existing from 1966-1974(UNESCO, 2019 (a) Annex 1). Integration of basic literacy life skills and vocational training into youth and adult education programmes assist in improving the adult literacy. Although there has been great progress experienced in almost every country in the last 50 years in the world, about 773 million youth and adults still lack the basic literacy skills (Uis, 2020). TVET institution learners need to acquire the information literacy skills to enable them to make use of information in the context of the competency-based education system enhancing solving of the contemporary learning challenges (Olufunike, 2018).

Information Literacy Research Model

This study is based on the Bloom's taxonomy information literacy integration model developed in 1956 which focuses on the outcomes of student learning. It is based on six levels of cognitive learning namely; remembering, understanding, applying, analysing, evaluating and creating. Based on this model, the above the six levels of cognitive learning can be developed for the TVET learners once information literacy has been integrated into the curriculum.

Application of IL by Trainees

Information literacy instructions are usually conducted during orientation and library user education. The delivery mode used to conduct IL includes; face to face, individual instruction at the help or reference desks, department meetings, printed training materials and the PowerPoint presentations. The learners are usually exposed to various library resources, services and policies, online searching techniques, use of subscribed databases and the search engines.

An assessment done by the librarians on e-resource utilization during the covid -19 pandemic period between March 2020-March 2021 showed that utilization of e- resources during the period was below average. It was found that out of the 274 sampled students, only 132 of them utilized the e-resources

effectively i.e more than thrice in a week during the COVID 19 pandemic period and were able to attend online classes and access instructional materials online. This translates to 48.2%. To fully utilize the e- resources there is need to acquire information literacy skills because they are inevitable in this era of information technology (Dar et al. 2017 and Yebowaah & Plockey, 2017).

It was realized that most of the learners handily use the e-resources because of inadequate awareness and mobilization (Omosekejimi et al. 2015)

Perceived Benefits of Enhancing Integration of Information Literacy in TVET Curriculum in Response to COVID-19 Pandemic Effects

Integration of information literacy not only broadens the range of search strategies but they also add value to the content searched (Daramola, 2016). It also results to real time researches and findings. Others include:

- Introduction of blended learning

Blended learning allows TVET trainers design new courses that can meet different learner's needs.

- Enhancing student's engagements

Adoption of information literacy skills links the trainees to new opportunities because they are equipped with information literacy tools which enable them to build confidence.

- Development of self-regulation skills

Information literate learners develop self-regulation skills enhancing self-assessments, innovativeness, and searching techniques.

- Wider scope of opportunities

Information literacy exposes learners to a diverse scope of opportunities.

- Manage and empowering the learners

An information literate person is empowered to manage and address his own learning needs more effectively

- Learning anywhere and anytime

Information literacy exposes learners to classes beyond the physical boundaries or the time boundaries of scheduled lessons. The learners can start courses at their own convenient times.

- Attraction of a large group of learners

Both online and face-to face types of learning attract a large group of learners.

Strategies Laid Down in Enhancing Integration of Information Literacy in TVET Curriculum in Response to COVID-19 Pandemic Effects

There has been establishment of TVET standard –National Polytechnics Requirements and guidelines of 2019 which requires all the polytechnic librarians in partnership with the academic departments to provide information and instructions to all users through a well-structured information literacy and competency programme. Other strategies include; development of the e-learning student portal and e-library platforms, intensified internet, WI-FI hotspots, continuous training for both trainers and trainees and individualised user education.

Identified Requirement Gaps for Integration of Information Literacy in TVET Curriculum

The world today is heading towards an environment in which digital information may substitute print-based information. TVETs libraries' mission has shifted to linking the past and the present, and shaping the future by preserving the records of human culture, as well as integrating emerging information

technologies. Most of the TVET institutions in the third world countries Kenya included have for a long time had not understood the importance of information literacy. Though, Kenyan government have invested heavily in the necessary ICT infrastructure like fibre optic connectivity for all TVET institutions IL uptake is still wanting. This will help TVETs leverage on Information Communication Technology (ICT) which is a powerful tool to provide universal access to authentic information.

METHODOLOGY

Explorative research approach was adopted to ensure the data would be applicable to the Kenyan situation, and could be used in a predictive way

Research Design

The researcher used the descriptive survey design to accomplish the research. The design helped the researcher to explain how library users at The Nyeri National Polytechnic (NNP) applied information literacy. The design helped establish strategies laid out by NNP and also generalize on “Enhancing Integration of Information Literacy in TVET curriculum in response to COVID-19 pandemic effects”

Target Population and Location

The target population included 979 library users drawn from Diploma, Certificates and Artisan students. The study was carried out in The Nyeri National Polytechnic, Nyeri County and these were the number of trainees registered in the library system.

Table 1: Target Population

Category of respondents	Male	Female
Diploma students	111	74
Certificate students	57	34
Artisan students	15	2
Total	183	110

Sample and Sampling Techniques

The Nyeri National Polytechnic was purposively selected due to its convenience and availability of required data. Stratified sampling was used derived from the various categories of respondents in the Polytechnic. This included library users who are Diploma, Certificate and Artisan students. Simple random sampling was done to obtain 30% of the target population of the 293 library users. 185 Diploma and 91 certificates and 17 Artisan. Table 2 shows the sample size.

Table 2: Sample Size

Category	Frequency	Percentage
Diploma students	185	63.1
Certificate students	91	31.1
Artisan students	17	5.8
Total	293	100

Research Instruments

The instrument of data collection was a questionnaire which translated the research objectives into specific items. The tool was selected because it is more efficient, economical and was convenient for the type of respondents. The responses provided the data required to achieve the research objectives. In order to achieve this purpose, each question was formulated to convey to the respondent the idea or group of ideas required by the research objectives, and each item aimed at obtaining response which could be analysed for fulfilling the research objectives.

Validity and Reliability of the Instrument

The instrument was subjected to peer review and expert opinion to ensure validity. The questions appropriateness and generalization to the topic were validated by seeking experts' opinion. Validity of the responses was done by negating some of the questions provided to the respondent. Peer review of the study was examined to judge the stability, correctness and appropriateness of the instrument.

A high reliability of response was obtained by providing all respondents with the exact same set of questions. This allowed the researcher to find out whether, each item was clear and easily understood, the respondents interpret each item in the intended way, and the items have an intuitive relationship to the topic. A pilot test of the instruments was carried out from selected members to improve on clarity and comprehensiveness of the instrument aimed at gathering relevant information on enhancing integration of information literacy in TVET curriculum in response to COVID-19 pandemic effects.

Methods of Data Analysis and Presentation

Data collected was checked for errors, incomplete questionnaires and inconsistencies in response or outright contradiction of known facts. It was properly scrutinized to check for extremes such as consensus responses to agree or disagree. The data was coded based on the nature of the scales used to allow for statistical analysis. Tables, frequencies, distribution, percentages and mean were used to present the results with an aim of giving evidence relevant to the research objectives.

Ethical Consideration

The study was carried out on personal initiative and full details of the research approach and description of the study were enlisted in the questionnaire.

4.0 FINDINGS

The following section presents a discussion of study results based on the research questions as presented in the questionnaire. It describes the implications of the findings in the context of "Enhancing Integration of Information Literacy in TVET curriculum in response to COVID-19 pandemic effects" The discussions provide a basis for generalization of results specifically to TVET institutions in Kenya.

Research Question One

In regard to the question adoption of e-learning during COVID 19 pandemic. The respondents provided responses to the statements that assessed the attendance of virtual classes during COVID-19 where 12.3% of the respondents strongly disagreed, 10.2% disagreed, 11.3% were uncertain, 31.4% agreed while 34.8% strongly agreed with the statement. On ability to do assignments and submitting them online; 13.0% strongly disagreed, 13.0% disagreed, 10.6% were uncertain, 35.2% agreed while 28.3% strongly agreed with the statement. On accessing of e-materials during the COVID-19; 14.3% strongly disagreed, 10.2% disagreed, 8.2% were uncertain, 32.4% agreed while 34.8 % strongly agreed with the statement. On sensitization on how to access the available e-library materials, during the COVID 19; 11.6% strongly disagreed, 6.8% disagreed, 11.6% were uncertain, 31.4% agreed while 38.9 % strongly agreed with the statement. On those who did not attend any virtual class during COVID-19; 49.8% strongly disagreed, 18.4% disagreed, 7.2% were uncertain, 13.0% agreed while 11.6 % strongly agreed with the statement.

Therefore, the results indicated that more than half of the respondents agreed that e-learning was adopted during the COVID 19. The findings are further explained by Figure 1 which following graph.

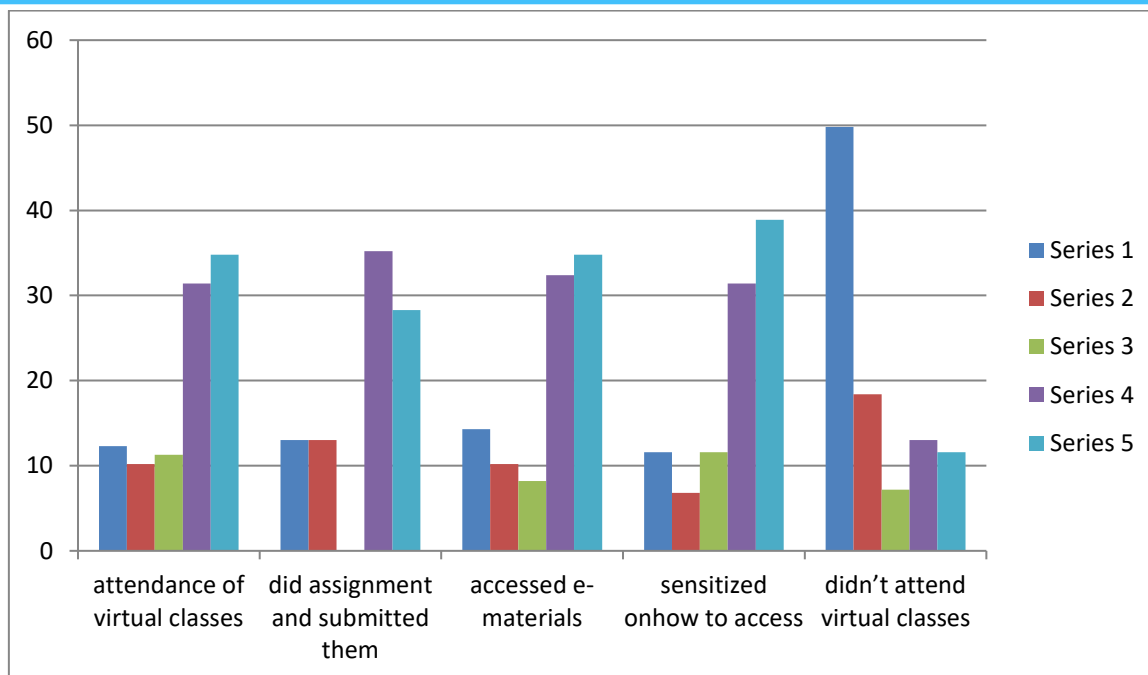


Figure 1: Attendance of Virtual Classes

Research Question Two

For the question on “What strategies have been laid down in your institution Enhancing Integration of Information Literacy in TVET curriculum in response to COVID-19 pandemic effects. The respondents provided responses to 6 statements. On orientation programmes and information user education being conducted by the librarians; 2.3% of the respondents strongly disagreed, 2.7% disagreed, and 5.5% were uncertain, 31.4% agreed while 57.3% strongly agreed with the statement. On whether the institution has put in place mechanisms for sufficient internet access.6.1% strongly disagreed, 4.8%disagreed, 6.5% were uncertain, 42.0% agreed while 40.6% strongly agreed with the statement. On whether the e- liberty section was spacious 5.8%strongly disagreed, 7.2%disagreed, 10.9% were uncertain, 32.8% agreed while 43.3 % strongly agreed with the statement. On whether the institute had sufficient hotspots (WI-FI); 2.3%strongly disagreed, 6.1%disagreed, and 9.6% were uncertain, 35.5% agreed while 45.7 % strongly agreed with the statement. On adequacy of computer labs 7.2%strongly disagreed, 8.2%disagreed, 10.2% were uncertain, 29.4% agreed while 45.1 % strongly agreed with the statement. On whether the lectures were well versed with technology 3.4%strongly disagreed, 3.4%disagreed, 6.5% were uncertain, 42.7% agreed while 44.0 % strongly agreed with the statement. On adequacy capacity to accommodate more computers, 5.1%strongly disagreed, 3.4%disagreed, 10.9% were uncertain, 3.7% agreed while 43.0 % strongly agreed with the statement.

Therefore, the results indicated that more than half of the respondents agreed that strategies for integration of information literacy into TVET curriculum during the COVID 19 were laid. The findings are further explained by Figure 2.

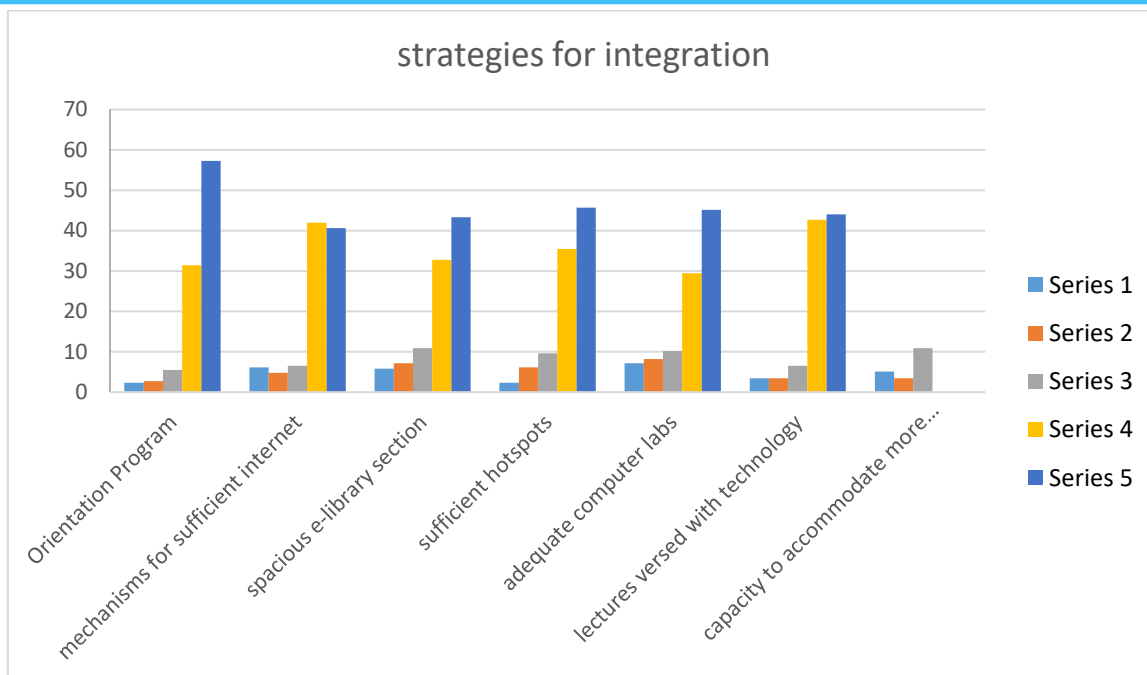


Figure 2: Enhancing Integration of Information Literacy in TVET Curriculum

Research Question Three

As for the question “on the effects of the established strategies’ the respondents provided responses to the 8 statements. On whether the available computers in the library enhanced access; 4.8% of the respondents strongly disagreed, 5.4% disagreed, 19.8% were uncertain, 39.9% agreed while 30.8% strongly agreed with the statement. On whether the internet has expanded the knowledge base 1.0% strongly disagreed, 3.1% disagreed, 20.5% were uncertain, 38.2% agreed while 37.2% strongly agreed with the statement. On whether the available computer labs enable the trainees’ ease of access 4.1% strongly disagreed, 4.4% disagreed, 21.2% were uncertain, 33.8% agreed while 36.5 % strongly agreed with the statement. On whether the sufficient hotspots (WiFi) have encouraged use of own devices; 20% strongly disagreed, 4.8% disagreed, 20.1% were uncertain, 31.7% agreed while 41.3 % strongly agreed with the statement. On whether the library staff conduct orientation to enhance usage 2.7% strongly disagreed, 6.5% disagreed, 16.7% were uncertain, 35.2% agreed while 38.9% strongly agreed with the statement. On whether there were relevant tools to access information 1.4% strongly disagreed, 2.4% disagreed, 19.1% were uncertain, 41.3% agreed while 35.8 % strongly agreed with the statement. On evaluating and integration of new information in existing knowledge; 2.4% strongly disagreed, 5.8% disagreed, 12.6% were uncertain, 37.2% agreed while 42.0 % strongly agreed with the statement. On whether learners were able to select online materials for use; 4.1% strongly disagreed, 3.1% disagreed, 15.7% were uncertain, 42.7% agreed while 34.5 % strongly agreed with the statement.

Therefore, the results indicated that more than half of the respondents agreed that the laid down strategies for integration of information literacy into TVET curriculum during the COVID-19 had effects. The findings are further explained by Figure 3.

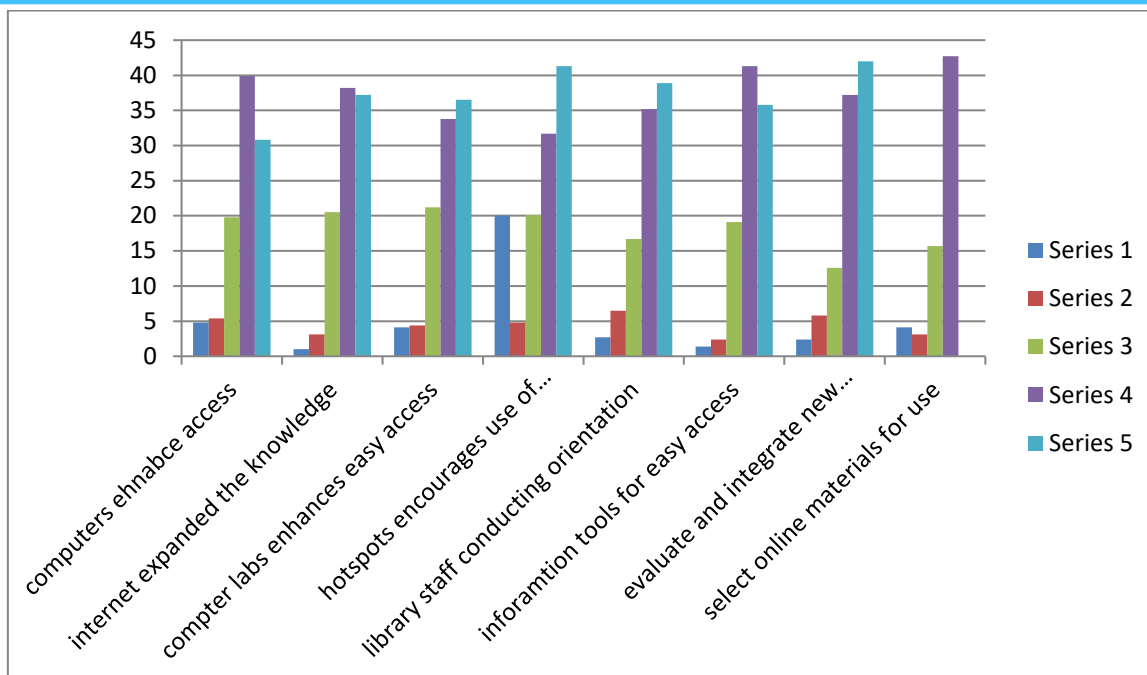


Figure 3: Available Computers in the Library Enhanced Access

5.0 SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents the discussion of the findings, draws conclusions according to the findings on each of the study objectives and gives recommendations.

Findings

The first objective assessed whether e-learning was adopted during COVID-19 pandemic. The researcher found that more than half of the respondents agreed that e-learning was adopted during the COVID 19. The second objective was out to establish whether strategies have been laid down in your institution Enhancing Integration of Information Literacy in TVET curriculum in response to COVID-19 pandemic effects. The researcher found that there were laid strategies for integration of information literacy into TVET curriculum during the COVID-19.

The third objective sought to establish the effects of the established strategies that were laid down. The researcher found that that the laid down strategies for integration of information literacy into TVET curriculum during the COVID-19 had significance effects

Conclusion

The study conducted found out adoption of e-learning really took place during the COVID-19 pandemic, strategies for integration of information literacy into TVET curriculum were laid down and had effects on curriculum delivery in TVET institutions.

Recommendations

The recommendation is that TVET institutions embrace information literacy to enable trainees adapt in the current information world. Policy makers put in place frameworks to ease adoption of information literacy strategies by TVET institutions. CBET curriculum delivery be enhance through adoption of information literacy for life ling learning.

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