International Journal of Scientific Research and Engineering Development-– Volume 6 Issue 2, Mar-Apr 2023

Available at www.ijsred.com

RESEARCH ARTICLE OPEN ACCESS

The Relationship between Home Learning and Accessibility of Study Materials by Secondary School Students in Ibanda County, Ibanda District Western Uganda

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Abstract

The study assessed the effect of home learning on the accessibility of study materials by secondary school students in Ibanda County, Ibanda. It was guided by the following objectives; assessing forms of home learning that were used by secondary school students, determining the level of accessibility of study materials among secondary students, and assessing the relationship between home learning and accessibility of study materials by secondary school students. The descriptive cross-sectional survey design was employed. The population for this study included secondary school teachers, students, headteachers, DEO. Headteachers participated in the study because they were responsible for implementing and monitoring school programs. Quantitative data was analyzed using the computer-based program called Statistical Package for Social Sciences (SPSS). Qualitative data collected was subjected to the inductive data analysis procedure. Results indicated that the majority of the respondents 210 (69.1%) agreed that students are able to easily access the Internet as needed for their studies. The majority of the respondents 218 (71.7%) agreed that students are comfortable communicating electronically through internet. The majority of the respondents 223 (73.4%) agreed that students access newspapers with study content. The findings further indicated that there was a moderate statistically significant relationship between home learning and accessibility of study materials by secondary school students at ($P=0.000<0.01$, $r=0.226$). It was concluded that there are different forms of home learning used by secondary school students in Ibanda County, Ibanda District such as internet, deliveries and one to one. It was also concluded that there was effective accessibility of study materials among secondary school students. It was recommended that the government through ministry of education should promote home learning by improving internet facilities, devices for students and teachers, among others.

Key Words:Relationship, Home Learning, Accessibility, Study Materials, and Secondary School Students.

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Introduction

Uganda has experienced growth in its Home learning sector over the past decade as the result of the liberalization of the acquisition, use, and application of ICT in 1996 (Barrera-Osorio et al., 2020). A range of technologies adopted include cellular and mobile telephone networks, mobile radio communication, paging services, and courier services. In addition, the Uganda Government under the Ministry of ICT with support from development partners is in the process of rolling out a National Data Backbone that will link all districts and major towns in the country as such creating a suitable ICT environment through which e-learning implementation can flourish.

In Uganda, the Home learning infrastructure expansion has created different avenues through which ICTs can be applied to various sectors like education (Mulenga et al., 2020). However, despite the recognition e-learning has received at all education levels there is still very limited adoption and inaccessibility by students. Current e-learning initiatives at the lower education levels, for instance, have concentrated on putting into place a Home learning infrastructure that supports e-learning with very limited emphasis on content development and pedagogical aspects (Nabukeera, 2020).

Secondary education in the Ibanda district faced an unplanned, unwanted, inexperienced, tense test in online learning with Novel Covid-19 pandemic. For all the stakeholders participating in this type of training from teachers, students, and support ICT staff were stuck on how they have to go through to ensure that the academic year 2019/20. Early January 2020, the outbreak of the Covid-19 caused Ugandan secondary schools to close their physical campuses following a presidential directive. This prompts the researcher to carry out a study on Home learning materials and accessibility of study materials by students among secondary schools in Ibanda County, Ibanda District.

The accessibility of study materials by students' leads to a positive outcome as far as the development of the education sector is concerned in the country. For this study Home learning is the access of learning experiences by the use of technology and the internet, making the learning experience more convenient and the accessibility to study materials by students (Davis, 2019). Knowing the importance of home schools, the government of Uganda introduced free lessons conducted on TVs and radios, the delivery of study materials to students.

While Home learning provides opportunities for the ways education is delivered and accessed by learners, assessment practices are often limited in the variety and modes in which they are allocated in the online environment. A study by Kansiime, (2021) concluded that internet connectivity and power supply will be unreliable, especially in homes situated in rural areas. Teachers lack the required skills for designing Home learning courses. Therefore, the study assessed the effects of Home learning on the accessibility of study materials by secondary school students in Ibanda County, Ibanda District.

Purpose of the study

The purpose of the study is to assess the effect of home learning on the accessibility of study materials by secondary school students in Ibanda County, Ibanda

Theoretical review

The study employed Technology Acceptance Theory developed by (Davis 1989). The theory suggests that new technologies such as personal computers and learning with using technology are complex and an element of uncertainty exists in the minds of decision-makers concerning the successful adoption of them (Kamal et al., 2015). People form attitudes and intentions toward trying to learn to use the new technology before initiating efforts directed

at using it. Attitudes towards usage and intentions to use may be ill-formed or lacking in conviction or else may occur only after preliminary striving to learn to use the technology evolves. Ain et al., (2019) suggested a prominent role for perceived ease of use. Compatibility, relative advantage, and complexity had the most significant relationships with adoption across a broad range of innovation types. Eason studied perceived usefulness in terms of a fit between systems, tasks, and job profiles, using the terms "task fit" to describe the metric.

METHODOLOGY

Research Design: The descriptive cross-sectional survey design was employed. A cross-sectional study is a type of research design in which researchers collect data from many different individuals at a single point in time. In cross-sectional research, the researcher observed variables without influencing them. A cross-section survey enabled the researcher to collect data within the shortest period of time.

Target Population:A population is any group of individuals that has one or more characteristics in common and that is the interest of the researcher (Tsiaras, 2018). The population for this study included secondary school teachers, students, headteachers, DEO. Headteachers participated in the study because they were responsible for implementing and monitoring school programs. DEO participated in the study because he was responsible for implementing effective Home learning and learning. Students participated in the study because the study was about their accessibility. Secondary school teachers participated in the study because they were responsible for delivering Home learning content materials.

Sample Size: The sample size is a subject of the population that comprises members selected from the population (Machin, 2011). A sample in this case is a sub-set of the population. The study population comprised 310 respondents of which 5 respondents were head teachers, 80 respondents were teachers, 224 pupils.

Table 1: Showing Sample Size and sampling techniques

Category	Population size	Sample size	Sampling technique
DEO	1	1	Purposive sampling
Head Teachers	5	5	Purposive sampling
Teachers	100	80	Simple random sampling
Students	1,494	224	Simple random sampling
Total	**1,600**	**310**	

Research Instruments

The study used the following research instruments in order to collect the much-needed primary data.

Semi-Structured Questionnaire: A questionnaire is a collection of questions based on the subject of interest to the researcher and completed by respondents. A semi-structured questionnaire was administered to teachers and students as they could easily read and interpret the questionnaire. It included open and closed-ended questions for participants to fill and express their views and opinions. Questionnaires were preferred because they were time-saving as one spends little time moving from one respondent to another during data collection unlike in the interview method. Besides, with the questionnaire method, the respondent can freely answer sensitive but true questions and the respondent gave enough time to consult other documents for accurate and detailed information. The questionnaires were used because they permitted anonymity that resulted in more honest responses and they were the best instruments for quantitative research.

Interview Guide: Personal interviews generally in a face to face contact or conversation using structured questions were used by the researcher in collecting primary data from headteachers. Besides, interviews helped to generate first-hand and reliable data, for the respondents to give immediate feedback, and also adequate probing was used to establish the specific

information regarding the study problem. Interviewing helped the researcher use his own skill to overcome the resistance, if any, of the respondents thus getting relevant information for a research study. The method involved probes in addition to asking predetermined questions so as to create a rapport between the interviewer and the respondent. An interview guide was used in collecting data from headteachers and DEO.

Data Analysis

Quantitative Data Analysis: Quantitative Data was analyzed using the computer-based program called Statistical Package for Social Sciences (SPSS). Such data are presented in the form of graphs and tables. Furthermore, data collected through documents (national and annual examinational results) were analyzed through the content analysis procedure. This procedure involved analysis of text data by reducing and sense marking making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings.

Qualitative Data Analysis: Qualitative data collected was subjected to the inductive data analysis procedure. The procedure allowed analysis of data as per specific objective before a broad picture is developed from such data. The procedure involved the description of information, condensing such data into categories or themes for valid inference and interpretation.

RESULTS

Table 2: Respondents' responses regarding forms of Home learning that were used by secondary school students

Statements	5	4	3	2	1	Total
Students are able to easily access the Internet as needed for their studies	50 (16.4%)	210 (69.1%)	27 (8.9%)	12 (3.9%)	5 (1.6%)	304 (100.0%)
Students are comfortable communicating electronically through internet	45 (14.8%)	218 (71.7%)	33 (10.9%)	8 (2.6%)	0	304 (100.0%)
Students are willing to actively communicate with my teachers through internet	35 (11.5%)	260 (85.5%)	9 (3.0%)	0	0	304 (100.0%)
Students possess sufficient computer skills for doing online work	30 (.9%)	270 (88.8%)	4 (1.3%)	0	0	304 (100.0%)
Students are able to manage their online study time effectively and easily complete assignments on time.	70 (23.0%)	219 (72.0%)	9 (3.0%)	4 (1.3%)	2 (0.7%)	304 (100.0%)
Students are comfortable composing text mails on a computer in an online learning environment	27 (8.9%)	265 (87.2%)	12 (3.9%)	0	0	304 (100.0%)
Students are able to access study materials for all their subjects	23 (7.6%)	268 (88.2%)	6 (2.0%)	5 (1.6%)	2 (0.7%)	304 (100.0%)
Students are able to interpret and understand the study materials delivered to	12 (3.9%)	287 (94.4%)	5 (1.6%)	0	0	304 (100.0%)

them						
Students always access study newspapers with study contents of my class.	7 (2.3%)	290 (95.4%)	4 (1.3%)	2 (0.7%)	1 (0.3%)	304 (100.0%)
Students always access textbooks while at home	30 (9.9%)	266 (87.5%)	7 (2.3%)	1 (0.3%)	0	304 (100.0%)
Students always have discussion with their friends about studies.	57 (18.8%)	216 (71.1%)	12 (3.9%)	10 (3.3%)	9 (3.0%)	304 (100.0%)
Students share ideas on what they learn with their friends at home	32 (10.5%)	268 (88.2%)	4 (1.3%)	0	0	304 (100.0%)
Students are able to access notes from nearby colleagues	15 (4.9%)	289 (95.1%)	0	0	0	304 (100.0%)
Students are able to do assignments with their friends while at home	43 (14.1%)	234 (77.0%)	19 (6.3%)	5 (1.6%)	3 (1.0%)	304 (100.0%)
Students enjoy working with their colleagues in study groups.	18 (5.9%)	267 (87.8%)	9 (3.0%)	6 (2.0%)	4 (1.3%)	304 (100.0%)

5 = strongly agree, 4 = Agree, 3= Undecided, 2= disagree, 1 = strongly disagree

Results in table 4.3 above indicate that the majority of the respondents 210 (69.1%) agreed that students are able to easily access the Internet as needed for their studies. The majority of the respondents 218 (71.7%) agreed that students are comfortable communicating electronically through internet. The majority of the respondents 260 (85.5%) agreed that students are willing to actively communicate with my teachers through internet. The majority of the respondents agreed that students possess sufficient computer skills for doing online work. The majority of the respondents 219 (72.0%) agreed that students are able to manage their online study time effectively and easily complete assignments on time. The majority of the respondents 265 (87.2%) agreed that students are comfortable composing text mails on a computer in an online learning environment. The majority of the respondents 268 (88.2%) agreed that students are able to access study materials for all their subjects. The majority of the respondents 287 (94.4%) agreed that students are able to interpret and understand the study materials delivered to them. The majority of the respondents agreed that students always access study newspapers with study contents of my class. The majority of the respondents agreed that students always access textbooks while at home. The majority of the respondents agreed that students always have discussion with their friends about studies. The majority of the respondents agreed that students share ideas on what they learn with their friends at home. The majority of the respondents 289 (95.1%) agreed that students are able to access notes from nearby colleagues. The majority of respondents 234 (77.0%) agreed that students are able to do assignments with their friends while at home. The majority of the respondents 267 (87.8%) agreed that students enjoy working with their colleagues in study groups. Additionally from interviews one of the head teachers said that "*students in this school are using internet for studies, there is effective communication between teachers and students through emails, zoom, among others*"

Table 3: The level of accessibility of study content among secondary school students

The level of accessibility to content	5	4	3	2	1	Total
Students' accessibility to online content	48 (15.8%)	215 (70.7%)	22 (7.2%)	14 (4.6%)	5 (1.6%)	304 (100.0%)
Students' accessibility to newspapers with study content	43 (14.1%)	223 (73.4%)	26 (8.6%)	9 (3.0%)	3 (1.0%)	304 (100.0%)
Students' accessibility to textbooks	33 (10.9%)	265 (87.2%)	5 (1.6%)	1 (0.3%)	0	304 (100.0%)
Students' accessibility to notes for all my subjects	27 (8.9%)	276 (90.8%)	1 (0.3%)	0	0	304 (100.0%)
Students' accessibility to assignments and tests	24 (7.9%)	264 (86.8%)	9 (3.0%)	4 (1.3%)	3 (1.0%)	304 (100.0%)
Students' skills to send and receive emails	25 (8.2%)	270 (88.8%)	8 (2.6%)	1 (0.3%)	0	304 (100.0%)
Students' ability to discuss with friends	21 (6.9%)	273 (89.8%)	5 (1.6%)	4 (1.3%)	1 (0.3%)	304 (100.0%)
Students' confidence in using online study gadgets like computers, phones, etc	11 (3.6%)	291 (95.7%)	2 (0.7%)	0	0	304 (100.0%)
Students' ability to share sharing ideas with friends	6 (2.0%)	290 (95.4%)	5 (1.6%)	2 (0.7%)	1 (0.3%)	304 (100.0%)
Students' accessibility to technology-based applications for Home learning	26 (8.6%)	270 (88.8%)	6 (2.0%)	2 (0.7%)	0	304 (100.0%)

5 = Very high, 4 = High, 3= Moderate, 2= Low, 1 = Very low

The majority of the respondents 215 (70.7%) agreed that student access online content. The majority of the respondents 223 (73.4%) agreed that students access newspapers with study content. The majority of the respondents 265 (87.2%) agreed that students access textbooks. The majority of the respondents 276 (90.8%) agreed that students' accessibility to notes for all my subjects. The majority of the respondents 264 (86.8%) agreed that students access assignments and tests. The majority of the respondents 270 (88.8%) agreed that student have skills to send and receive emails. The majority of the respondents 273 (89.8%) agreed that students have ability to discuss with friends. The majority of the respondents 291 (95.7%) agreed that students have confidence in using online study gadgets like computers, phones, among others. The majority of the respondents agreed that students have ability to share sharing ideas with friends. The majority of the respondents 270 (88.8%) agreed that students have access to technology-based applications for Home learning. One of the respondents during interviews mentioned that "*learners have accessibility to online lessons, online textbooks, notes, and email addresses*".

Table 4: Pearson correlation between home learning and accessibility of study materials by secondary school students

Correlations			
		Home learning	Accessibility of study materials
Home learning	Pearson Correlation	1	0.226**
	Sig. (2-tailed)		0.000
	N	304	304
Accessibility of study materials	Pearson Correlation	0.226**	1
	Sig. (2-tailed)	0.000	
	N	304	304
**. Correlation is significant at the 0.01 level (2-tailed).			

The study findings in table 4 above showed that there is a moderate statistically significant relationship between home learning and accessibility of study materials by secondary school students at (P=0.000<0.01, r=0.226). Therefore the change in home learning is associated with accessibility of study materials by secondary school students in Ibanda County, Ibanda District. From interviews one of the respondents said that "*home learning is associated with accessibility of study materials by students since it enables learners to access online study content very easily*".

Discussion of findings

The study findings showed that there is a moderate statistically significant relationship between home learning and accessibility of study materials by secondary school students at (P=0.000<0.01, r=0.226). This is in agreement with Acosta-Vargas et al., (2018) who noted that there was association between home learning and accessibility of study materials by secondary school students. Accessibility-related technical tools include authoring applications for Home learning study content. Evaluation tools conduct static analysis of web pages and return a report or rating, whilst repair tools identify problems and recommend improvements. Accessibility-related design tools include accessibility guidelines and accessibility standards.

In similar way, Huang et al., (2020) noted that the most well-known and influential generic accessibility guidelines are the web content accessibility guidelines (WCAG) developed by the web accessibility initiative (WAI) of the World Wide Web Consortium (W3C). Other more specific guidelines have been developed, including guidelines for the design and use of virtual learning environments (VLES) in Higher Education.

Conclusion

It was concluded that there are different forms of home learning used by secondary school students in secondary school students in Ibanda County, Ibanda District such as internet, deliveries and one to one. There was effective accessibility of study materials among secondary school students. For example the use internet as channel to access content, newspapers, textbooks, subject notes, assignment and tests, devices such as phones. There was a moderate statistically significant relationship between home learning and accessibility of study materials by secondary school students.

Recommendations

The government through ministry of education should promote home learning by providing internet facilities, devices for students and teachers, among others. The teachers and students should be sensitized on effective utilization of home learning.The stakeholders in education system should implement the enablers for accessibility to study materials. This can be done by providing more channels of accessing study materials such as media.The ministry of education should conduct conferences to support home learning and accessibility of study materials. This will increase the performance of learners.

References

Acosta-Vargas, P., Acosta, T., and Lujan-Mora, S. (2018). Challenges to assess accessibility in higher education websites: A comparative study of Latin America universities. *IEEE Access*, *6*, 36500-36508.

Ain, N., Vaia, G., DeLone, W. H., and Waheed, M. (2019). Two decades of research on business intelligence system adoption, utilization and success–A systematic literature review. *Decision Support Systems*, *125*, 113113.

Ali, W. (2020). Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic. *Higher Education Studies*, *10*(3), 16-25.

Barrera-Osorio, F., Galbert, P. D., Habyarimana, J., and Sabarwal, S. (2020). The impact of public-private partnerships on private school performance: Evidence from a randomized controlled trial in Uganda. *Economic Development and Cultural Change*, *68*(2), 429-469.

Davis, M., Ali, M., Benard, E., Kassim, M., and Gilibrays, O. G. (2019). ICT Integration Challenges into Service Delivery in the Ugandan Ministry of Local Government: A Literature Review. *American Journal of Online and Distance Learning*, *1*(1), 1-10.

Huang, R., Tlili, A., Chang, T. W., Zhang, X., Nascimbeni, F., and Burgos, D. (2020). Disrupted classes, undisrupted learning during COVID-19 outbreak in China: application of open educational practices and resources. *Smart Learning Environments*, *7*(1), 1-15.

Kamal, M. M., Bigdeli, A. Z., Themistocleous, M., and Morabito, V. (2015). Investigating factors influencing local government decision makers while adopting integration technologies (IntTech). *Information and Management*, *52*(2), 135-150.

Kansiime, M. K., Tambo, J. A., Mugambi, I., Bundi, M., Kara, A., and Owuor, C. (2021). COVID-19 implications on household income and food security in Kenya and Uganda: Findings from a rapid assessment. *World development*, *137*, 105199.

Machin, D. (2011). *Sample size tables for clinical studies*. John Wiley and Sons.

Maldonado, J. E., and De Witte, K. (2020). The effect of school closures on standardised student test outcomes. *KU Leuven Department of Economics Discussion Paper DPS20*, *17*.

Mulenga, E. M., and Marbán, J. M. (2020). Prospective teachers' online learning Mathematics activities in the age of COVID-19: A cluster analysis approach. *EURASIA Journal of Mathematics, Science and Technology Education*, *16*(9), em1872.

Nabukeera, M. S. (2020). COVID-19 and online educationduring emergencies in higher education.

Silva, P. (2015). Davis' technology acceptance model (TAM) (1989). *Information seeking behavior and technology adoption: Theories and trends*, 205-219.

Tsiaras, A. (2018). A population study of gaseous exoplanets. *The Astronomical Journal, 155*(4), 156.

