ROLE OF LEARNERS' READINESS TOWARDS VIRTUAL LEARNING EFFICACY IN HIGHER LEARNING INSTITUTIONS IN TANZANIA: A CASE OF INSTITUTE OF ACCOUNTANCY ARUSHA

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Abstract : This study sought to assess the role of learners' readiness towards virtual learning efficacy in Higher Learning Institutions in Tanzania, A case of the Institute of Accountancy Arusha. This study employed a descriptive survey design. The target population of this study was students of the IAA and the simple random sampling technique was used to select 99 respondents for this study. Primary and Secondary data were used in this study. The primary data was collected by using questionnaires. On other hand, secondary data was obtained from IAA's minutes, journals, and dissertations. Data were analysed using Statistical Package for Social Sciences (SPSS) Version 26.0 using descriptive and inferential statistics. Findings uncovered that there was a positive correlation between learners' attitudes and efficacy of Virtual learning. Findings depicted the significant relationship between learners' material supported the efficacy of Virtual learning. The researcher recommends that, future studies are needed with other different factors and with the large population.

Keywords: Readiness, Efficacy, Virtual Learning

1.0 INTRODUCTION

Knowledge society and professional personnel determine the development and growth of people in any nation. To maintain a competitive edge, an education system must conform to the demands of the modern era. The level of current education has been raised as a result of recent technological advancements. New ICT trends, education globalization, and an increasingly competitive environment are virtually altering the education landscape, particularly in the higher education market (Tallent-Runnels et al. 2018). Global higher education demand is expected to increase from less than 100 million in 2000 to more than 250 million by 2025. (UNESCO 2018). This is due to an increase in the number of individuals wishing to enrol in order to improve their abilities. Higher enrolment in primary and secondary schools, as well as higher advancements in elementary and secondary schools, were major elements driving this growth. More students entered, completed, and attempted to continue their education beyond high school (UNESCO, 2018).

Higher education creates the fundamental conditions for enhancing the quality of life and solving difficulties that are critical to promoting economic stability and democratic support in the country. A paradigm shifts from 'national education,' 'one-time education for few,' to 'lifetime learning for everyone,' 'centric learning for instructors and centred learners,' has occurred in the higher education system (Pragati, 2019). Many higher education institutions have adopted virtual learning to give courses entirely online or to augment traditional courses (Blended learning). This allows learners of all ages and abilities to learn continuously in any location at any time.

In the digital era, virtual learning has been a significant instrument for the modern, increasingly flexible learning process, resulting in a student-cantered learning and education practice (Shopova 2021). High learning and educational results cannot be reached unless developing information and communication technology are incorporated into the school system. There are various reasons for the increase in the higher education e-learning market, both from the perspective of institutions and students. According to Love and Fry (2019), in a rapidly increasing cyber education market, schools, colleges, and other higher education institutions are competing to enhance their Virtual learning skills. Technical advancement in higher education must be maintained by developing an ideal learning environment to meet changing demand (Tham and Werner 2020). Almost all university courses feature a virtual component, which makes use of web-based technology to facilitate the distribution of material or assignments (Allen 2021).

As a result, potential employers expect students with a degree to have the ability and experience to accomplish the job criteria, whether they have done it virtually or in-person. Fully Virtual graduate programs are rapidly growing as a result of rising demand (Allen and Seaman 2021). In an occupied and busy environment, an increasing number of students are turning to virtual learning.

Higher education in Tanzania is now undergoing a considerable transformation in terms of accessibility. With the rapid evolution of technology, new techniques of obtaining and disseminating information are developing and being implemented in higher education (Mwambeja 2021). With all of these changes, it is becoming increasingly necessary for universities to discover methods to improve on-line learning experiences in order to optimize learning, including the use of technology in conjunction with course content and instruction.

Recent technology advancements are driving changes in the way knowledge is disseminated and processed. One of the most popular access technologies, the Internet, has an influence on school programs and educational methods (Pena-Shaff and Nicholls 2020). The advancement of internet technology has, in turn, aided in the advancement of virtual learning methodologies and the establishment of mass virtual learning platforms. Tanzania's higher-education Virtual learning rapidly increased in 2020 as the corona virus illness evolved as a middle-income economy. Virtual tools and methods that were previously used in an experimental mode for distance education are now an essential part of mainstream education itself, with blended learning serving as a continuum between traditional face-to-face learning and purely virtual courses in Tanzanian Higher Learning Institutions (Kweka 2021). Along with success stories, there are negative implications such as low pass rates and poor learning outcomes. This study sought to assess the role of learners' readiness towards virtual learning efficacy offered by Higher Learning Institutions in Tanzania so as to address the adverse consequences of low pass rates and poor learning outcomes derived by Virtual learning. In this study, Institute of Accountancy Arusha was used as case study.

2.0 LITERATURE REVIEW

Wedemeyer's Theory of Independent Study

Wedemeyer is regarded as the creator of new concepts in open and distant education, as well as an advocate for the use of technology as a tool for expanding possibilities and promoting educational democracy (Fluegge 2010). Wedemeyer considered that the core of virtual learning is student independence. According to Wedemeyer, independent study consists of numerous types of arrangements in learning and teaching in which learners and teachers carry out their duties and tasks separately from one another and communicate in various ways. Wedemeyer deviated from the typical correspondence study model and contributed to the growing new design of seeing the student and instructor roles (Fluegge, 2010). Runfang (2010) highlighted the major characteristics of autonomous learning as widespread availability of education, increased student accountability, an effective mix of techniques and media, adjusting to individual variances, and a broad range of start, stop, and learning periods. According to Fluegge (2010), the theory should be based on independence, teaching, and learning concepts. Wedemeyer proposed that separating teaching and learning was a method of breaking down space-time boundaries in education. As a result, he offered six criteria of independent study systems: separation of student and instructor, shared learning processes and teaching processes done in writing or through other mediums, and industrialization of instruction. Learning occurs as a result of the student's activity; the convenience of learning is improved in the student's own surroundings; and the learner is the one who takes responsibility for the learning pace and has the flexibility to start and stop learning at any time. This theory assisted the researcher in assessing role of learners' readiness towards virtual learning efficacy in Higher Learning Institutions in Tanzania.

Moore's Theory of Transactional Distance

Michael G. Moore developed the Transactional Distance theory, which proposed that scenarios in distance learning, such as teacher and student separation, could lead to gaps in communication, as well as a psychological space that could lead to misunderstandings between the instructor's and the student's attitudes (Moore & Kearsley, 1996). Moore (1997) argued that the transaction nature that is developed between students and professors should take numerous variables into account. Structure, infrastructure, technology discourse, mindset, and demographic aspects of the learner are among these elements. This hypothesis, according to Fluegge (2010), suggests an interaction between individuals, the environment, and the patterns of behaviour in a circumstance. Other instructional methods of executing teaching behaviours separate from learning behaviours include doing those in a contiguous state in the presence of learners such that the learner and teacher communication is facilitated by print, mechanical, or electronic means. According to Fluegge (2010), notwithstanding other transactional distances in every educational event, the separation of student and instructor might impact attitudes. The actual indicator of the separation is that the teachers present, arrange, engage, and do other educational procedures in significantly different ways than they would in a face-to-face context. This theory assisted the researcher in ascertain learners' attitudes and the availability of learners' material support of the learners on the efficacy of Virtual learning.

Empirical Literature Review

At the Centre for Continuing Education, Noesgaard and rngreen (2021) investigated the primary hurdles to e-learning usage. The quota sampling approach was used to get a proportionate 10% of distance learners and 20% of instructors. The Directors and Information Technology Support Staff were chosen using a purposive sampling approach. Data was gathered using a questionnaire and a focus group discussion guide. The study's findings indicated that e-learning use is often poor. This was linked to lecturers' unfavorable attitudes, senior management's lack of commitment, poor internet connectivity, remote learners' comparatively low self-efficacy, and a lack of a dedicated money allocation for eLearning programs. Based on these findings, key recommendations were made, including the reconstitution of board members at both universities, the installation of fiber optic cables by the government, and the organization of regular workshops on key aspects of e-learning in order to increase e-learning adoption and utilization.

Al-Mobaideen and Allahawiah (2021) investigated and identified the elements influencing e-learning efficiency in the context of Jordanian school education. The authors concluded that factors such as training provided to users, the e-learning system's ability to meet the user's needs, easy accessibility, technology acceptance model, power granted to users, e-learning infrastructure, user-friendly interface, technological and technical supplement provided to stakeholders all have an impact on the effectiveness of an e-learning system. Differences in stakeholder views due to gender, qualification, experience, and career level are also investigated.

Du et al. (2019) investigated the efficacy of e-learning in the undergraduate sub-sectors of higher education, medical science, and work-based learning. They believe that without the necessary human and institutional capacity, the structure and skills for exploiting ICTs, including applications such as the internet, will be lacking. This will make all usage impossible. Furthermore, they believe that without linguistically and culturally varied digital content and material, a substantial majority of people, particularly in poor nations, will be unable to grasp and assimilate what e-learning has to offer.

Harsasi and Sutawijaya (2018) investigated the elements that influenced student satisfaction in virtual tutorials. The literature found four factors: course structure, communication quality and tutorial quality, and technology quality. The dependent variable was satisfaction. A total of 152 valid replies were collected from the 580 Virtual surveys issued to students enrolled in distant education Virtual tutorials. To achieve the results, the study used confirmatory factor analysis and multiple linear regression. It was established that the course format, communication quality of the Virtual tutorials, and technology quality were the elements that influenced student happiness.

Li, Marsh, and Rienties (2018) revealed major factors influencing student satisfaction in both mixed and virtual courses. The research included 200 factors related to module design, presentation, learner characteristics, learner history, concurrency, and learner satisfaction. The findings were generated using logistic regression. It was discovered that both new and veteran learners were only somewhat happy with the learning design. Aside from that, learner satisfaction with the quality of materials offered, assessment criteria, and workload all contributed to learner satisfaction, and their overall learning experience was positive. Furthermore, the applicability of the training to their professional lives added to student satisfaction. Individual student characteristics had little effect on satisfaction, indicating that despite the wide range of learners, their learning experiences were comparable.

Eom and Ashill (2020) conducted a study to learn about the many factors influencing students and their learning results in virtual education in Kenyan universities. 372 legitimate answers were collected out of 3285 emails sent to students who have completed one Virtual course at Kenyatta University. The data were obtained using the SEM method. It was discovered that instructor-student facilitation, student-student discussion, teacher, and course design were significant factors influencing both satisfaction and learning results. Motivation and student self-regulation were both negligible predictors of student satisfaction and learning outcomes. It was proposed that more research be conducted on the interdependence of the factors influencing the satisfaction and learning outcomes of virtual students.

Diep, Zhu, Struyven, and Blieck (2019) attempted to predict student happiness with Virtual Learning Programs, interaction impact between teacher skill and learning management system on satisfaction in various types of Blended Learning in Belgium. Students at the Adult Education Centre provided 138 valid replies. The partial least squares (PLS)-SEM approach was used to obtain the results. However, it was shown that the instructor's skill, students' perceived work value, and goals were the most important determinants for student happiness. Following that are the quality of the Learning Management System (LMS), the instructor's assistance, and the students' self-efficacy. In contrast to previous research, LMS quality has an effect on satisfaction via perceived accomplishment objectives. LMS would affect satisfaction differently when dealing with the competence of the teacher under different blended learning settings.

3.0 METHODOLOGY

A descriptive survey design was used in this investigation. According to Orodho (2003) and Kothari (2004), a descriptive survey design is one that "seeks to correctly reflect the features of a particular individual, situation, or group." Descriptive research entails gathering and analysing quantitative data in order to describe distinct phenomena. The target demographic for this study was IAA students. The probability sampling approach was used in this investigation. This study's respondents were chosen using a basic random sampling approach. This gives all IAA students a chance to be chosen for the research. The sample size was calculated using the formula below;

$$n = \frac{N}{1 + N.e^2} = \frac{5000}{1 + 5000 * 0.05^2} = 99$$

This study made use of both primary and secondary data. Questionnaires were used to collect primary data. The use of questionnaires was justified by the fact that they are appropriate for descriptive research since they are simple to administer, provide quick delivery, and allow respondents to answer questions at their leisure. Secondary data, on the other hand, was acquired from IAA minutes, journals, and dissertations. SPSS version 26 was used to analyses the data. To assist data input, the obtained data was referenced, and items in the questionnaire were coded.

4.0 RESULTS

This study had two objectives which were; to ascertain the learners' attitude toward the efficacy of Virtual learning and to examine the availability of learners' material supports toward the efficacy of Virtual learning. Based on the mean values, the five-point scale ranges are as follows: mean scores of less than 1.5 = no extent; 1.5 - 2.5 = little extent; 2.5 - 3.5 = moderate extent; 3.5 - 4.5 = large extent; 4.5 - 5 = very large extent.

Learners' Attitude Toward the Efficacy of Virtual Learning

The study sought to ascertain the learners' attitude toward the efficacy of Virtual learning. The results were as shown in Table 4.1 below.

Table 4.1: Learners' Attitude Toward the Efficacy of Virtual Learning

	N	Mean	Std. Deviation
I am satisfied with the technical stability/reliability	98	3.3265	.70015
I am satisfied with the user-friendly interface	98	4.3367	.86088
I am able to gain access to the learning site at any time	98	3.2551	1.42374
Very accurate, current and related to the course content	98	3.5204	1.44472
Information is available at the right level of detail	98	3.5714	1.26001
I am satisfied with the quality/quantity of Virtual-instructional materials	98	2.9490	1.27119
Optimal instructions are given for the examinee in Virtual test	98	3.3878	1.14543
I feel that assuring quality in open content remains a challenge	98	3.2143	1.47313

	N		
I feel satisfied with the speed of the Internet	98	3.4388	1.21898
I feel the communication quality of the Internet is good	98	3.8673	.93762
Valid N (listwise)	98		

Source: Field Data (2021).

To the moderate extent (mean of 3.3265 and standard deviation of .70015), majority of the respondents asserted that they are satisfied with the technical stability/reliability. To the large extent (mean of 4.3367 and standard deviation of .86088) stated that they are satisfied with the user-friendly interface while with mean of 3.2551 and standard deviation of 1.42374 respondents consented that they are able to gain access to the learning site at any time. To the large extent (mean of 3.5204 and standard deviation of 1.44472) respondents indicated that to Virtual learning is very accurate, current and related to the course content. With mean of 3.5714 and standard deviation of 1.26001, respondents agreed that information is available at the right level of detail. To the moderate extent (mean of 2.9490 and standard deviation of 1.27119) respondents indicated that they are satisfied with the quality/quantity of Virtual-instructional materials. To the moderate extent, respondents claimed that optimal instructions are given for the examinee in Virtual test (mean of 3.3878 and standard deviation of 1.14543) and they feel that assuring quality in open content remains a challenge (mean of 3.2143 and standard deviation of 1.47313) while moderately feel satisfied with the speed of the Internet (mean of 3.4388 and standard deviation of 1.21898). To the large extent, respondents felt the communication quality of the Internet is good (mean of 3.8673 and standard deviation of .93762). From the above findings, it can be inferred that students, student attitude toward Virtual learning is a critical factor in the learning environment supported by Virtual learning tools. Strong attitudes can guide behaviour and positive attitudes towards learning can contribute to the Virtual learning efficacy.

Availability of Learners' Material Supports Toward the Efficacy of Virtual Learning

The study intended to examine the availability of learners' material supports toward the efficacy of Virtual learning. The results were as shown in Table 4.2 below.

Table 4.2: Learners' Material Supports Toward the Efficacy of Virtual Learning

	N	Mean	Std. Deviation
Virtual facilitation influence efficacy of Virtual learning	98	3.5918	1.22547
Computer capacity influence efficacy of Virtual learning	98	2.9286	1.22895
Tutor assistance influence efficacy of Virtual learning	98	3.5306	1.43738
Information is available in the appropriate forma	98	3.5918	1.12915
I do have easy access to internet	98	2.7959	.59133
I do have up-to-date ICT infrastructure	98	3.4898	.96586
Valid N (listwise)	98		

Source: Field Data (2021).

The mean of 3.5918 and standard deviation of 1.22547 respondents agreed that Virtual facilitation influence efficacy of Virtual learning while moderately agreed (mean of 2.9286 and standard deviation of 1.22895) computer capacity influence efficacy of Virtual learning. Study findings revealed that with mean of 3.5306 and standard deviation of 1.43738) majority of the respondents agreed that tutor assistance influence efficacy of Virtual learning as well as agreed that Information is available in the appropriate forma (mean of 3.5918 and standard deviation of 1.12915). Majority of the respondents moderately agreed that they do have easy access to internet (mean of 2.7959 and standard deviation of .59133) while to moderate extent (mean of 3.4898 and standard deviation of .96586) respondents indicated that they do have up-to-date ICT infrastructure. Form these findings, they imply that availability of earners' material supports help improve access and efficacy of Virtual learning outcomes. Higher Learning Institutions and students must ensure that, they both have adequate and appropriate facilities for teaching and learning so that Virtual programmes could be implemented effectively.

Correlation Analysis

Correlation method was used to test relationship between variables, the association of both independent variable and dependent variable were tested in order to assess whether the study objectives were achieved and the relations are stated below are met.

Table 4.3: Correlations

		Learners' Attitude	Learners' Material Supports	Efficacy of Virtual Learning
Efficacy of Virtual Learning	Pearson Correlation	.431**	.472**	1
	Sig. (2-tailed)	.000	.000	
	N	98	98	98

Source: Field Data (2021).

From table above, there was a positive correlation between Learners' Attitude and Efficacy of Virtual Learning [r=0.431**] while there was significant relationship between Learners' Material Supports and Efficacy of Virtual Learning [r=0.472**].

4.5.2 Regression Analysis

Regression analysis is a set of statistical methods used to estimate relationships between a dependent variable and one or more independent variables (David 2009). In regression analysis, three assumptions were considered;

　i.　Coefficient of determination in the modal summary should explain the independent variables above 50%.
　ii.　At 5% level of significant and 95% confident level, the significant value (P value) in the ANOVA and coefficient regression should be P < 0.000-0.05.

iii.   At 5% level of significant and 95% confident level, the value of predictions or independent variables should be P ≤ 0.000 - 0.05.

Table 4.4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.789[a]	.623	.607	2.58763

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1028.564	4	257.141	38.403	.000[b]
	Residual	622.711	93	6.696		
	Total	1651.276	97			

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	7.869	3.810		2.065	.042		
	Learners' Attitude	.268	.075	.327	3.550	.001	.477	2.098
	Learners' Material Supports	.189	.057	.264	3.307	.001	.637	1.570

According to the results of table 4.6, the first assumption is correct, which also shows that the hypotheses of this study are positively associated, since the coefficient of determination in the modal summary is 62.3 percent, which is a high percentage because it surpasses 50 percent.

The model used in this study predicts the outcome variable of the connection between dependent variables statistically significantly. Since the significant value (P value) is 0.000, which is less than 0.05, the efficacy of virtual learning is adequately described by independent variables: Learners' Material Supports and Learners' Attitude. As a result, the hypothesis of this study is positively correlated because, at the 5% level of significance and 95% confidence level, the significant value (P value) in the ANOVA and coefficient regression is between P 0.000-0.05.

$$Y = 7.869 +-0.268X_1 +-0.189X_2 + \alpha$$

Where by Y = Efficacy of Virtual Learning

X_1 = Learners' Attitude

X_2 = Learners' Material Supports

The coefficient table implies that there is a significant relationship between Learners' Attitude and Efficacy of Virtual Learning as it shows value is 0.001, there is a significant relationship between Learners' Material Supports and Efficacy of Virtual Learning as it shows value is 0.001. Also, the Tolerance Factor (VIF) was not more than 0.1 (10%) while VIF was not more than 5. This implies that, multi-collinearity among explanatory variables of this study was found to be no problem.

Discussions of Findings

Education has traditionally been regarded as the bedrock of national development. Educational institutions in the core of the country are currently transmitting large amounts of information through the use of various e-learning technologies, and it would be accurate to say that virtual learning will become the reality of higher education in the future. According to the findings of this survey, the majority of respondents are happy with the technical stability/reliability to a modest level. This supports the findings of Li, Marsh, and Rienties (2018), who discovered that both new and old learners were dissatisfied with the Virtual learning design to a lesser level. According to the findings, the majority of respondents are happy with the user-friendly interface, and they agree that they may visit the learning site at any time. This is consistent with Al-Mobaideen and Allahawiah's (2021) conclusion that the effectiveness of an e-learning system is influenced by factors such as user training, the e-learning system's ability to meet the user's needs, easy accessibility, technology acceptance model, power granted to users, e-learning infrastructure, user-friendly interface, technological and technical supplement provided to stakeholders.

Respondents responded that they are somewhat happy with the quality/quantity of Virtual-instructional resources. It should be noted that without the necessary human and institutional capacities, the structure and skills required for employing Virtual Learning, including such applications as the internet, would remain unfulfilled (Du et al., 2004). (2019). The findings show that, to a modest extent, appropriate instructions are delivered to the examinee in the Virtual test, and guaranteeing quality in open material and Internet speed remains an issue. This is supported by Moore's Theory of Transactional Distance, which states that in distance learning, teacher and student separation can cause gaps in communication, as well as a psychological space that can lead to misunderstandings between the instructor's and the student's attitudes.

Respondents generally thought the Internet's communication quality was good. This is consistent with the findings of Harsasi and Sutawijaya (2018), who demonstrated that course structure, communication quality of the Virtual tutorials, and technology quality were the elements that influenced student happiness in the Virtual tutorials. It is critical for HLIs in Tanzania to work on increasing the quality of these lessons through ease of use, engagement, and presentation. To impart information to learners, virtual learning necessitates the presence of devices such as computers, smartphones, the Internet, video conferencing, and satellite broadcasts. The internet is still the most often utilized technique since it covers a larger region, and it is used in both public and private education systems. The confluence of the Internet with the educational sector has a significant impact on students in schools, colleges, and universities. The findings concurred that virtual facilitation influences the efficacy of virtual learning, whereas computer capacity

has a minor influence on the efficacy of virtual learning. According to Eom and Ashill (2020), the major elements influencing satisfaction and learning outcomes were instructor-student facilitation, student-student conversation, teacher, and course design. According to the study's findings, the majority of respondents felt that tutor help influences the efficacy of virtual learning. This is backed by Wedemeyer's Theory of Independent Study, which saw virtual learning as an important tool for expanding options and promoting educational democracy. Similarly, Diep, Zhu, Struyven, and Blieck (2019) agreed that tutor help, students' perceived work value, and goals are the most important elements influencing student happiness in virtual learning programs. According to the findings of this study, pupils had moderately easy access to the internet and up-to-date ICT infrastructure. As Noesgaard and rngreen (2021) highlighted, the degree of e-learning usage is often low owing to a lack of commitment from top management, limited internet access, relatively low self-efficacy on the side of distant learners, and a lack of a special cash allocation for eLearning initiatives. To ensure the effectiveness of virtual learning, students must have stable and fast internet access with up-to-date ICT infrastructure. According to Holmberg's Theory of Interaction and Communication, student retention is enhanced when there is availability of material and academic support, which integrates the student on to the academic community even though the student is at a distance.

5.0 CONCLUSION AND RECOMMENDATION

This study concludes that Learners' Attitude has positive relationship with efficacy of Virtual learning. Students are more likely to share with their mentor when they feel at ease with their teacher's guidance. Furthermore, when students think they have paid attentive attention to their studies, it lowers barriers between them and their lecturers. This study gives information to universities so that they can consider learners' perspectives when developing Virtual programs. According to the findings of this study, there is a considerable link between learners' material supports and the efficacy of virtual learning. Material aids for learners are crucial because they promote virtual learning by exchanging knowledge with learners via technology. It must be adequate to facilitate information flow and communication between students and teachers. As a result, it is critical for the IAA to ensure that students have adequate materials to support their Virtual learning. Future research with other parameters and a larger population is required. Furthermore, comparative research across institutions in other countries, or a different approach, such as qualitative, can learn more about the aspects that contribute to HLIs students' self-efficacy in virtual learning.

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