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Research Article

Distance Learning as a Mechanism for Knowledge Acquisition and Utilisation

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ABSTRACT

Distance learning (DL) holds several potential benefits for individuals, especially as a mechanism for acquiring and utilizing knowledge that enhances performance. This study delves into distance learning as a strategy devised to gain and use knowledge. While adopting the descriptive survey research method in its inquiry, the study also utilized data generated through a well-structured questionnaire set from a population of 8337, drawn from undergraduates in 10 Federal and State owned universities in the five (5) South-Eastern states of Nigeria. The Krejcie and Morgan 1970 sample size determination formula generated a sample size of 369, while the sampling technique deployed is the stratified sampling. The survey instrument was content and face-validated by academic and industry experts. The instrument was also subjected to a reliability test using the Cronbach Alpha, and it produced a coefficient of 0.894 signifying high reliability. The collected data was then analyzed using the regression analytical tools of Statistical Package for Social Sciences (SPSS). The result revealed that distance learning has a statistical and positive relationship with knowledge utilization. It further concluded that DL improves the capability to obtain pre-requisite educational knowledge that is crucial in any knowledge economy especially as it relates to undergraduates in institutions of higher learning.

Keywords: Distance learning, Information technology systems, Knowledge utilisation, Perception, Undergraduates

INTRODUCTION

Education is the most effective tool for social and economic growth, based on empirical evidences. As stated by the Federal Republic of Nigeria (FRN) (2004), education is the process of developing mental skills to learn, integrate, and acquire new knowledge, comprehend scientific laws of nature, and build the flexibility to adapt to varied dynamic settings. Even though the aforementioned component is vital, research has solely focused on knowledge acquisition rather than utilisation. This can be explained, understandably, by several variables, including population, geographic disadvantage, and a lack of financial resources. Therefore, distance learning (DL) was created to lessen these difficulties. It is a specialised type of postsecondary educational program, that was first created in Boston, Massachusetts in 1728 by Caleb Philips. It involves virtual interactions between resource persons and teachers/lecturers (Oxford College, 2024). Nwadinobi, Etele, Ezebube, Monyei and Ukpere (2024) claim that through electronic mail, postal services, and other channels, study materials are distributed to students; with the help of lecturers and instructors, students primarily conduct their independent learning. Rarely, a physical meeting may be planned to accomplish a particular goal (Chatterjee & Bhattacharjee, 2020; Abdu-Raheem, 2017). Owing to the modern knowledge economy and the unquenchable desire for both individual and collective mental growth, DL is currently the entry point for postsecondary education for a large number of people worldwide, avoiding traditional obstacles. Distance learning has become more flexible due to global communication and technological advancements, which are changing many aspects of human endeavours (Etesike, 2013).

According to the Nigerian National Policy on Education, education is a tool for successful national development (FRN, 2004). Since DL encourages learning without bounds and time constraints, it must be promoted to improve both the acquisition and application of information (Awolaju, 2016). Knowledge is easily used because of its patterns of acquisition, and it becomes a flexible asset via experience and ongoing

learning. Since it improves a person's abilities and encourages creative thinking, well-informed choices, and flexibility (Onyekwelu, Monyei & Muogbo, 2022; Akpan & Okoli, 2017). Notwithstanding DL's achievements, some people have complained about the quality of its work. According to certain experts and opinion leaders, most DL institutions sacrifice output quality to achieve more coverage, thus pushing knowledge utilisation to the margins (Daniels, 2010). Mabey and Zhao (2017), and Omolewa (2008) supports his position by stating that the process of acquiring and eventually using DL should receive more emphasis than size, which should be the driving force behind it. The reason for this is that it gives people the knowledge, abilities, or skills they need to contribute to a contemporary knowledge economy. As a result, the aforementioned foreshadows the urgent need to reconsider how information is not only obtained but also applied, as well as what strategies are suitable for its advancement. Therefore, this study examines DL as a mechanism for undergraduates' acquisition and utilisation of knowledge in higher education as well as industry.

LITERATURE REVIEW

Knowledge Creation Theory (Nonaka, 1994)

Knowledge formation theory serves as the theoretical cornerstone of this work. This theory was selected because of its viewpoints, which are connected to the variables and the claims of this study. Knowledge creation is the process of transforming acquired data and knowledge into unique, practical resources to foster creativity by converting implicit knowledge into explicit knowledge, according to Nonaka (1994). According to Ibojo and Mobolade (2023), implicit knowledge is made up of firsthand experience and experimental discoveries, whereas explicit knowledge is made up of data and facts that may be conveyed. This concept is essential to understanding the relationship that exists now between distance learning and knowledge utilisation. Emphasising the interplay between explicit and tacit knowledge, the knowledge production theory describes the process of transforming individual knowledge into collective knowledge. Nonaka's knowledge creation theory highlighted the significance of the two types of knowledge about distance learning, taking into account their unique characteristics (Fossen & Sorgner, 2019). This process of knowledge generation aids people in adapting, innovating, and making well-informed judgements that further improve their careers, sense of self, and propensity to survive. Based on the aforementioned deduction, knowledge creation theory advocates for a structure that maximises learnt material through remote learning for efficient application (Etesike, 2013; Nonaka, 1994).

Conceptual Understanding of Distance Learning

Distance learning (DL) is a term used to describe educational methods, patterns, and strategies that provide people with the chance to pursue higher education without any kind of obstacle, including age restrictions, flexible entry requirements, and discrimination based on gender and race (Monyei, Aiyelabegun, Kelvin-Iloafu & Ukpere, 2023; FRN, 2004). By connecting the educationally disadvantaged to a platform that allows them to pursue a university education while working full-time, DL is an educational developmental strategy that aims to stop the massive problems of the undereducated higher education population in primarily developing countries (Alaezi, 2005; Ojo, Ogidan & Olakulehin, 2000). UNESCO (2003) asserts that DL is a knowledge dissemination process that uses information and communication technology (ICT) in a virtual setting, as opposed to the traditional face-to-face teaching approach in higher education. Despite their busy schedules, DL provides adults (workers and company owners) with a second chance to pursue higher education whenever it is most convenient for them. ICT includes a broad range of technological tools and resources used for the production, sharing, storing, and managing of information (Prasenjit & Ritimoni, 2012). Distance learning, according to Awolaju (2016) and Abdu-Raheem (2017), is a way to acquire knowledge, skills, ideas, attitudes, and values that improve one's personal and professional development. It is frequently carried out without the student and tutor or knowledge sources having to physically interact (Nwadinobi et al., 2024; Akpan & Okoli, 2017).

Benefits of DL

Many stakeholders in a variety of economic sectors benefit greatly from distance learning programs. It offers pathways that improve the interested population's knowledge acquisition, hence advancing professional growth and national advancement (Awolaju, 2016; Abdu-Raheem, 2017). Through better knowledge acquisition, people have the opportunity to reach their preferred educational level and so support the economic development of their countries. The majority of the population has seen a huge decrease in poverty as a result of DL as it offers an academic framework that promotes work-life balance. Given that some people are unable to quit their jobs or businesses to attend a physical learning environment full-time, it provides a practical way for employees and entrepreneurs to obtain education. For organisations, DL provides the opportunity to teach employees internally without having to release them for extended periods of productive time. Ojo et al., (2000) also aver that the government and educational authorities view the system as a solution to the ongoing challenge of providing accessible, equitable, and reasonably priced education for everyone at all costs.

Information Technology Systems (ITS) Interplay with Distance Learning

ITS, which is described as a broad range of technical tools and resources used for communication, innovation, dissemination, storage, and data management, promoted the democratisation of learning without limits (Atiku, Jeremiah & Boateng, 2020; Prasenjit & Ritimoni 2012). The usage of ITS has made the redesigned learning process engaging and has helped DL candidates develop a practical perspective. By giving professionals and students a comfortable setting to discuss, share, or exchange information and its application on a variety of issues across a worldwide network, ITS has flattened the patterns of traditional DL systems. The use of knowledge, particularly in the educational sector worldwide, is seen to have been significantly impacted by the development of information technology systems in the education sector in recent years (Prasenjit & Ritimoni, 2012). According to Monyei at al., (2023), and Tenebe (2014), it is impossible to overstate the role that ITS plays in fostering DL. Therefore, to provide access to high-quality education through traditional university education and distance learning, there is an urgent need for significant investment in the education sector's information technology infrastructure. Participants in DL will have access to the information they need for efficient learning and appropriate knowledge utilisation thanks to these ITS investments. The largest obstacle to establishing an efficient higher education system, according to the 2009 report of the National Knowledge Commission of India (Etesike, 2013; Prasenjit & Ritimoni, 2012), is finding a way to offer high-quality education at the most affordable price. ITS is the answer to this problem. Establishing a strong network that can offer dependable network connectivity to all participating DL users is therefore important. Providing high-quality, easily accessible learning for efficient knowledge utilisation, will lessen time and space constraints.

Knowledge Acquisition and Utilisation

Monyei & Ukpere (2024) posit that in contemporary times talent is referred to as knowledge that includes explicit and tacit information which is a flexible resource that is gained through education or experience. Whereas tacit knowledge consists of personal experience and specialised knowledge, explicit knowledge consists of facts and data that may be shared. These two categories of information are relevant because of their correlation. The dynamic and intentional process by which an individual or organisation actively seeks to acquire, absorb, and increase their knowledge base is referred to as knowledge utilisation (Tseng & Lee, 2014; Lejeune, 2011). This can be accomplished in several ways, including information exchange, external collaborations, learning from experience, and research and development. Acquiring and utilising knowledge goes beyond simply gathering information; it entails applying learnt information strategically and methodically to support well-informed decision-making, adjust to shifting conditions, encourage innovation, and improve value creation (Rahi, 2019). According to Mabey and Zhao (2017), innovation, well-informed decision-making, and task adaptability are all dependent on the use of knowledge. Individuals and groups can prosper in an increasingly knowledge-driven economy thanks to a symbiotic relationship that underpins knowledge's transformation and evolutionary potential. The three critical dimensions of knowledge utilisation:

(i) Tacit and explicit knowledge,
(ii) Knowledge creation and transfer, and
(iii) Learning organization.

These are said to be the cornerstones of contemporary distant learning in addition to being the dimensions of knowledge utilisation. The process of turning both individual and group knowledge into useful ideas is known as knowledge usage. It involves changing implicit information into explicit knowledge and the other way around. The long-term success of an organisation depends on this dynamic interaction (Ibojo & Mobolade, 2023). As part of its organisational culture, any learning organisation must prioritise the active and ongoing promotion of learning, adaptation, and the creation of new knowledge. By emphasising that learning is not limited to individuals but also involves the efforts of a collective. As a result, learning organisations provide a platform for staff members to gain, exchange, and use information to accomplish shared objectives. Learning organisations are defined by open lines of communication, a readiness to accept change, and a dedication to knowledge acquisition as a continuous, essential activity. They also encourage experimentation, innovation, and feedback. Utilising knowledge becomes a strategic necessity in these kinds of organisations, which boosts competitiveness in the marketplace, organisational performance, and flexibility (Rahi, 2019; Lejeune, 2011).

The Link between Distance Learning, Knowledge Acquisition and Utilisation

By connecting those who are educationally disadvantaged to a supportive environment for learning, distance learning is a method of educational development that tends to halt the massive problems of undereducated higher education populations in primarily developing nations (Dhara, Chatterjee, Chaudhuri, Goswami & Ghosh, 2022; Alaezi, 2005). DL programs have several potential interactions and advantages for diverse stakeholders in every economic area. Many people might use it to learn new things and improve their work productivity. Students can pursue any level of education they desire, which inevitably helps countries' economies flourish as the knowledge they acquire is applied effectively. For the reason that the program offers an academic framework that promotes working while enrolled in school, DL has also significantly contributed to the population's decrease in poverty. Because it can be done online, it is frequently a flexible

and reasonably priced way for individuals to learn. Employers can arrange for in-service training for their employees through DL without having to take them out of the office for extended periods of productive time. The system is a solution to the ongoing issue of providing accessible, egalitarian education at a reasonable cost, according to government and educational policy-makers (Dhara et al., 2022; Ojo, Ogidan & Olakulehin, 2000).

Empirical Review

In their 2022 study, Iryna, Yaroslav, Tetiana, Serhii, and Svitlanax examined the use of distance learning resources as a contemporary instructional approach. A descriptive survey study approach was used in conjunction with an analytical procedure. As part of a practical study of the features of distance learning in the educational process, 42 secondary and higher education institutions located in the Ukrainian regions of Zhytomyr, Ivano-Frankivsk, Vinnytsia, Poltava, and Kyiv conducted interviews with 192 teachers, 411 students, and 89 methodologists from educational institutions involved in the organisation of the educational process. The Survey Planet service was used to carry out the investigation. A new and improved educational product was developed as a result of the employment of technology for distant learning in the classroom, according to the data analysis.

Dorothy (2012) used the National Open University of Nigeria's elementary education program as an example to examine the ways in which remote and open learning initiatives support the growth of human potential. Ex-post facto and descriptive research designs were blended. In Lagos State, 582 primary school teachers from public elementary schools participated in the study. Consequently, a sample size of 60 was obtained. Purposeful sampling was used to guarantee that the people chosen were public school primary school instructors. Serving about half of the university's student body, the Lagos Study Centre was specifically chosen for its unique features. Two sets of quantitative tools were employed to gather data: the Teacher Competency Measure (TCM) and the Rosenberg Self-Esteem Scale (RSES).

The study's issues were resolved by analysing the quantitative data using fundamental descriptive statistics like the mean and frequency counts. At the 0.05 level of significance, the hypotheses were tested using the t-test for independent samples to determine the mean difference between the two groups in the variables under investigation. According to the analysis of the study, the public should have confidence in the validity of remote learning as a way to develop human qualities.

In their 2023 study, Ibojo and Mobolade used a null hypothesis as a framework to investigate the connection between organisational performance and knowledge acquisition. A survey research design and a purposive technique were used in the investigation. The survey included 412 respondents who worked for manufacturing enterprises in Oyo State, Nigeria. To collect primary data, a structured questionnaire was employed. The study's conclusions indicate that knowledge acquisition significantly improves organisational effectiveness.

MATERIALS AND METHODS

In this study, the descriptive survey research methodology was applied. From the study's population of 8337 students enrolled in 10 federal and state-owned colleges located throughout the five (5) South-Eastern states of Nigeria, a sample of 369 undergraduates was chosen using the Krejcie and Morgan 1970 sample size determination formula. Stratified sampling was the sampling method used. The Cronbach Alpha test was used to test for reliability, and the results showed that the instrument was very reliable with a coefficient of 0.894. The questionnaire was further contextualised through face and content validation. The questionnaire set was physically distributed by three (3) research assistants, all of whom are postgraduate diploma candidates. Out of the 369 copies of the questionnaire that were circulated, 307 were recovered, and 290 were examined; hence, the 17 copies that were recovered were either incorrectly or partially filled out. Descriptive and inferential statistics were used to evaluate the collected data, and the hypothesis was tested at a 5% level of significance.

DATA PRESENTATION AND ANALYSES

Table 1. Respondents Responses on Undergraduates' Perception of Distant Learning as a mechanism for Knowledge Acquisition and Utilisation

S/N	Questionnaire Items	SA (5)	A (4)	UD (3)	D (2)	SD (1)	X	Remark
1	The idea of distant learning is a favourable option.	102	57	12	79	40	4.45	Accept
2	Students of higher learning find distance learning options as viable.	84	60	-	46	100	2.94	Reject
3	Distant learning offers convenience in study timing and comprehension.	100	75	25	90	-	3.64	Accept
4	Distant learning offers little study comprehension and poor utility.	-	45	20	75	150	1.86	Reject
5	Distant learning platforms are expensive and not cost-effective.	19	58	50	130	33	2.03	Reject
6	Physical/ face-to-face learning options are most effective for knowledge acquisition and utilization.	75	50	15	54	96	2.84	Reject
7	The technicalities in distance learning make knowledge utilization rigorous.	15	80	28	137	30	2.70	Reject

Source: Field Survey, 2024

Table 1 reveals the distribution of respondent's responses to the perception of distant learning as a better option for knowledge acquisition and utilisation. The analysis here uses the mean, with 3 as the threshold of acceptance. Any questionnaire response above 3 will be accepted and those below 3 will be rejected. As such, looking at the questionnaire items that depict the perception of the undergraduates on DL as a favourable and viable option for knowledge utilisation, a mean of 4.45 indicates that the participants in the research accepted the idea of learning from a distance (online). However, a mean of 2.94 which is slightly lower than the acceptance threshold shows that if given the option to choose, they would reject distant learning. Furthermore, a mean of 3.64 reveals that distant learning offers convenience in study timing and comprehension to the respondents. They however rejected in strong terms that distant learning offers little study comprehension and poor utility as shown by a mean of 1.86 and also rejected the proposition stating that distant learning platforms are expensive and not cost-effective with a mean of 2.03. A mean of 2.84 and 2.70 indicates that they also rejected the notion that physical or face-to-face learning options are most effective for both acquisition and utilization of knowledge, while also expressing that the technicalities in distance learning make knowledge utilization rigorous.

Table 2. Responses of Respondents on Distant Learning and Knowledge Utilisation

S/N	Questionnaire Items	SA (5)	A (4)	UD (3)	D (2)	SD (1)	X	Remark
	Distance Learning							
1	Your institution utilizes online platforms in teaching.	11	34	15	122	108	2.03	Reject
2	ITS mediums have been applied to learning in the institution.	-	17	4	70	`199	1.44	Reject
3	Course materials are easily accessible using online learning platforms.	121	103	34	20	12	4.04	Accept
4	Online learning techniques, make it seamless to search and utilize different learning resources.	90	129	56	15	-	4.01	Accept
5	Digital learning tools enhance the understanding of complex course contents.	110	50	40	50	40	3.48	Accept
6	Online learning avails curriculum resources and materials when required.	79	138	20	53	-	3.84	Accept
7	Study materials are easily reviewed to enhance comprehension and understanding when done online.	120	140	20	10	-	4.28	Accept
8	Distance learning affords understanding at one's own learning pace.	189	77	15	9	-	4.54	Accept
	Knowledge Acquisition and							

	Utilisation							
9	Online learning is significantly useful in improving study capacity.	90	50	52	79	19	3.39	Accept
10	Learning materials are simplified for better understanding and use in online teaching.	79	80	71	50	10	3.58	Accept
11	Distance learning provides additional study resources that enhance knowledge.	80	39	74	97	-	3.35	Accept
12	Learning remotely aids the ability to research and learn independently.	121	157	12	-	-	4.38	Accept
13	The challenges posed in distance learning courses stimulate poor concentration.	111	102	29	38	10	3.92	Accept

Source: Field Survey, 2024

Table 2 shows respondents' responses to the questions focusing on distance learning and knowledge acquisition and utilisation. The analysis here is strictly based on mean, with an acceptance benchmark of 3. On questions used in measuring DL, the respondents rejected that their schools make use of online teaching techniques in some of their courses as shown with a mean of 2.03 which is less than the acceptable benchmark. They also rejected that information technology system mediums have been applied to learning in their institutions as indicated by a mean of 1.44. They, however, accepted that course materials are easily accessible using online learning platforms with a mean of 4.04. Furthermore, the respondents also agreed that online learning techniques, make it seamless to search and utilize different learning resources; and that digital learning tools enhance the understanding of complex course contents; while online learning avails curriculum resources and materials when required with means of 4.01, 3.48 and 3.84 respectively. It was also agreed that study materials are easily reviewed to enhance comprehension and understanding when done using distance learning, and that distance learning affords understanding at one's own learning pace with means of 4.28 and 4.54 respectively.

On questions used in measuring knowledge acquisition and utilisation, the respondents agreed that online learning is significantly useful in improving their study capacity and course contents as shown with a mean of 3.39. A mean of 3.58 also indicates that learning materials are simplified for better understanding and use in an online teaching environment. Similarly, they concurred that online teaching and learning can encourage them to explore additional resources to enhance their knowledge as a mean of 3.35 indicates. Sharing the same line of thoughts, the respondents also agreed that online teaching and learning can improve their ability to research and learn independently and that the challenges posed in DL courses do not stimulate apt concentration with means of 4.38 and 3.92 respectively.

Test of Hypotheses

Ho_1: *Distance learning has no significant relationship with knowledge acquisition and utilisation.*
H_{A1}: *Distance learning has a significant relationship with knowledge acquisition and utilisation*

Table 3. Regression Result Summary for Study Hypotheses

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	t	Sig
1	.980[a]	.960	.960	1.042	6887.386	82.990	.000

a. Dependent Variable: Knowledge Acquisition and Utilisation
b. Predictors: (Constant), Distance Learning

Source: Field Survey, 2024

Table 3 is a summary of the regression result carried out to test the hypotheses for the study which states that distance learning has no significant relationship with knowledge acquisition and utilisation. Given that the correlation coefficient is 0.980, the R in the table indicates that there is a positive association between the two variables (Knowledge Utilisation as the dependent variable and Distance Learning as the independent variable). The coefficient of determination, or R square, indicates that variations in DL explain 96% of the variation in knowledge acquisition and utilisation. The t statistic is 82.990, the F statistic is 6887.386, and the sig, or probability value, is .000, all of which are below the 0.05 level of significance. These combinations of results indicate that distance learning has a statistically significant and positive relationship with knowledge acquisition and utilisation.

Discussions of Findings

Before testing the hypotheses, it was believed that there was no meaningful relationship between distant learning and knowledge acquisition and utilisation. However, the tested hypothesis showed that there is a

statistically significant and positive association between distance learning and knowledge acquisition and utilisation following a regression analysis in this current empirical investigation. As a result, the alternative theory was confirmed. According to this research, distance learning programs, technologies, and tactics catalyze literacy improvement and the provision of necessary and prerequisite knowledge that motivated individuals and groups. They also foster the development of new ideas to stay relevant in the current modern knowledge based economy. This result is consistent with a study by Iryna, Yaroslav, Tetiana, Serhii, and

Svitlana (2022) who found that a qualitative better educational output was obtained owing to the use of distance learning technologies in the classroom. This also supports the findings of Monyei et al., (2023) that DL provide people with the chance to pursue higher education without any kind of obstacle, and Dorothy (2012), findings that open learning programmes play significant roles in developing human capacity at the National Open University of Nigeria. It was determined that strategy needs to be sustained, as such open learning being a valid way to enhance human capital should be treated as a crucial strategy. Finally, Ibojo and Mobolade's (2023) discovered a significant and positive relationship between knowledge acquisition and the performance of manufacturing firms in Nigeria, while Chatterjee and Bhattacharjee's (2020) found that AI adoption and enhances higher institutions' performance.

CONCLUSION AND POLICY IMPLICATION

In a knowledge economy or environment, distance learning is a tactic that creates a learning platform that makes it easier for students to acquire and apply knowledge while requiring little to no in-person interaction between tutors or lecturers. As a result, it gives users a way to easily combine their education with other facets of their lives, such as work and family commitments. Therefore, this study concludes that DL improves the capability to obtain pre-requisite educational knowledge that is crucial in any knowledge economy especially as it relates to undergraduates in the institutions of higher learning.

From the above conclusion the following recommendations towards policy are proffered:

-Higher institutions in the study's geographical region need to introduce distance learning into several of their programmes or curricula, as this will enable undergraduates with jobs to partake in it without having to attend physically and interfere with their jobs.
-It is also advised that periodic training and developmental schemes should be put in place for the instructors to keep them abreast with the contemporary ways of acquiring, sharing and utilising knowledge through virtual platforms. Lastly,
-Administrators of these institutions of higher learning must not only raise the availability of funds to construct the needed infrastructures for the deployment of distance learning but also inculcate curriculums that support it. This will enhance the utilisation of knowledge gained through distance learning for the benefit of the nation.

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