Utilization of E-Learning Infrastructure Among Lecturers of Federal Polytechnics Bali, Taraba State, Nigeria

Esther Ishaya

Department of Computer Science School of Science and Technology Federal Polytechnic Bali, Taraba State

Abstract: This study examines the utilization of e-learning infrastructure among lecturers of Federal Polytechnics Bali, Taraba State. Nigeria. The researcher adopted descriptive survey research design. Population of the study comprised 250 lecturers, 200 lecturers were sampled randomly and used as respondents for the study. The questionnaire was validated by three experts; two in the department of Computer Science and one in the department of Statistics, School of Science and Technology, Federal Polytechnic Bali, Taraba State. Mean Score and standard deviation were used to answer the research questions. The study revealed that utilization of e-learning infrastructure is adequately utilized in Federal Polytechnic Bali but is not efficiently use by the lecturers.it was concluded that there is a need for awareness and training to familiarize the lecturers with the use of e-learning infrastructure looking at its benefits and application overweighing its challenges. The study among other things recommended that to make sure lecturers stay current with e-learning resources, workshops, seminars and training sessions should be scheduled routinely, The management of the institution should encourage lecturers to use e-learning infrastructure for educational purposes.

Keywords: utilization, e-learning, infrastructure and polytechnic

INTRODUCTION

Technology plays a vital role in education section; it turns the world into a global village by becoming smaller day by day. It proves to be a powerful tool that empowers teaching and learning in all level of education. Technology has become one of the best means for teaching and learning with or without school premises Akanbi (2020). Since the breakdown of COVID 19, e-learning and its use has been on the rise in higher institution, secondary and elementary schools have adopted e-learning as a mode of teaching and learning. According to Dhawan (2020) e-learning is no more an option, it is a necessity.

Information and Communication Technology (ICT) in education is any Information Technology that focuses on the acquisition, storage, manipulation, management, transmission or reception of data required for the educational purpose Ugwu & Nnaekwe (2019). Without ICT there is no e-learning, as ICT keeps advancing, e-learning will also advance, becoming more practicable in schools and providing lifelong learning Okeke (2021). It offers unique educational and training opportunities as they improve teaching and learning, innovation and creativity Maatuk, Elberkawi, Aljawarneh, Rashaideh, & Alharbi, (2022). Bappa & Ahmed (2020) states that ICT through its interconnected infrastructure now has reach over geographic distances and are available 24 hours a day on real time, synchronous and asynchronous basis. Information and communication technology (ICT) offers lecturers the chance to exercise adaptability and take advantage of efficient methods of communication, collaboration, processing, and problem-solving complex issues, it has been demonstrated to be potentially potent tools for educational change and reform in education. ICT promote a quality education and effective teaching- learning atmosphere for both a student and teacher Ugwu & Nnaekwe (2019).

E-learning technology give rise to e-life, e-teaching, e-card among other which are facilitated through internet, is a popular learning approach in schools at different levels. Akanbi (2020) states that e-learning is the process of teaching and learning with the use of computer through the internet. According to Garad,

Al-Ansi, & Qamari, (2021) E-learning has become necessary and critical for educational institution to survive. Effective e-learning system allows students and lecturers to interact quickly and easily. Since the beginning of the 21th century many of e-learning systems have been implementing by educational institutions. This development was as a result of the technology development and innovation but it didn't replace the traditional learning. E-learning is distance learning that utilizes computer technology or computer networks or the internet Haryudin & Imanullah (2021). e-learning is associated with accessibility, affordability, flexibility, learning pedagogy, life-long learning, and policy Dhawan (2020). E-learning allows people to learn without physically being in a classroom, and it works anywhere when there is a steady supply of electricity and internet connectivity. The use of e-learning infrastructure at various levels in schools would increase the productivity of both the lecturers and the students because there is no e-learning without ICT. Students take an active role in their education by using e-learning. According to Elogbo & Akek (2019) utilization is the art of putting things or resources that are tangible or tangible to proper use. The authors add that utilization is the proportion of available time that a piece of equipment or facility is operated in the course of doing work. Atinmu (2015) states that utilization is the ability to make effective and independent use of resources and services in a workplace. Okonoko & Eruwe (2021) assert that utilization is the extent to which an individual makes use of and benefits from the available resource and services in the workplace. According to Affia &Agoulu (2016) term utilization refers to the process of making practical and effective use of something. They added that utilization may also refer to the percentage of available time that a machine, device or employee is actively working. Polytechnic education in Nigeria is oversee by National Board for Technical Education (NBTE) a parastatal body under Federal Ministry of Education. Polytechnic is traditionally an institute that offers education in many arts and science at the diploma level. It plays a crucial role in preparing the students to be productive, enterprising and self-reliant through the acquisition of technical skills Udofia (2023). Ukpai in Saue & Victor (2023) noted that polytechnic education is a type of education resulting in the acquisition of practical and useful skills. Polytechnic education contributes significantly to economic development. The abundance and use of polytechnic products in educational, industrial, manufacturing, agricultural and construction sectors have led to the economic development of the country Polytechnic education is more concerned with the technical and vocational education and training, technology transfer as well as skills development to enhance the socio-economic development of a country, Lawal & Atueyi as cited in Udofia (2023).

STATEMENT OF THE PROBLEM
Research have shown that e-learning infrastructure enhance teaching and learning at all levels of educations. Without proper e-learning infrastructures and the utilization of the infrastructure in the institution this will greatly affect the effectiveness and conveniency of the lecturers. The institution lacks internet service, lecturers make use of modem and mobile data in order to have access to the internet connectivity in the institution. Based on the above-mentioned problems, the researcher tends to find out the level of utilization of e-learning infrastructure among lecturers of Federal Polytechnic Bali, Taraba state.

AIM AND OBJECTIONS OF THE STUDY
The aim of this research work is to investigate the utilization of e-learning infrastructures among lecturers of Federal Polytechnics Bali, Taraba State.
Specifically, the research work sought to:
- Determine the utilization of e-learning infrastructure among lecturers of Federal Polytechnic Bali, Taraba State.
- Determine how efficient are lecturers in the use of e-learning infrastructure in Federal Polytechnics Bali, Taraba State.

RESEARCH QUESTION

The study will answer the following research questions:

- What is the level of utilization of e-learning infrastructure among lecturers of Federal Polytechnic Bali.
- How efficient are lecturers in the use of e-learning infrastructure in Federal Polytechnic Bali.

THEORETICAL REVIEW

Leadership Style

Methodology

The study adopted the descriptive survey research design which was meant to reveal the utilization of e-learning infrastructures for teaching and learning in Federal Polytechnics Bali, Taraba State. This design was adopted so as to enable the researcher gather information from a large population about utilization of e-learning infrastructures for teaching and learning in the institution. The population of the study was two hundred and fifty (250) lecturers from the above-mentioned institution. Purposive sampling technique was used to select two hundred (200) lecturers from the population. A self-designed structured questionnaire was used as the instrument for the study. The instrument was tagged "Utilization of E-learning Infrastructure in Federal Polytechnic Bali Questionnaire (UEIFPBQ)" and given to three (3) experts in the Department of Computer Science in Federal Polytechnics Bali for vetting to ascertain content and face validity. The Questionnaire which was designed on a four (4) point rating scale of Very High Level (VHL) 4, High Level (HL) 3, Low Level (LL) 2, and Very Low Level (VLL) 1. The questionnaires were administered and collected by the researcher. Data collected were analyzed using Arithmetic Mean and Standard Deviation. Any item with a mean rating of 2.50 and above was regarded as accepted while any item with a mean rating below 2.50 was regarded as rejected.

Research Question 1: What is the level of utilization of e-learning infrastructure in Federal Polytechnic Bali? N =200.

Table 1: the level of utilization of e-learning infrastructure in Federal Polytechnic Bali

S/N	ITEMS	VHL	HL	LL	VLL	MEAN	SD	Remark
1	Lecturers present their lectures using PowerPoint presentations	90	56	44	10	3.13	1.77	Accepted
2	Institution has website address	85	65	36	14	3.11	1.76	Accepted
3	Students records and grades are store using computer database	89	74	31	6	3.23	1.80	Accepted
4	Lecturers surf the internet for educational resources	128	52	16	4	3.52	1.88	Accepted
5	Most lectures are delivered online without students and lecturers having physical contact	10	5	90	95	1.65	1.28	Rejected
6	Lecturers communicate with students using e-learning platform	12	18	84	86	1.78	1.33	Rejected

Source: Field Survey 2023

Table 1 revealed the mean responses on the the level of utilization of e-learning infrastructure in Federal Polytechnic Bali. Based on the cut-off point of 2.50, the result indicates that 2 items with a mean score ranging from 1.65 to 1.78 from the responses were rejected which shows their level of utilization of e-learning infrastructure. However, items 1, 2, 3 and 4 with the mean score of 3.13, 3.11, 3.23 and 3.52 respectively, which is above the cut-off mark of 2.50 revealed the level of their utilization of e-learning infrastructure.

Research Question 2: How efficient are lecturers in the use of e-learning infrastructure in Federal Polytechnic Bali.

Table 2: the efficiency of lecturers in the use of e-learning infrastructure in Federal Polytechnic Bali.

S/N	ITEMS	SA	A	DA	SDA	MEAN	SD	Remark
1	Lecturers deliver their lectures using video conference	20	63	106	11	2.46	1.57	Rejected
2	Lecturers use e-library in retrieving information	16	44	57	83	1.96	1.40	Rejected
3	Lecturers prefer to use e-books, e-journals than hard copies materials for their research, teaching and learning	55	95	39	11	2.97	1.72	Accepted
4	Lecturers use interactive white board tools for teaching and learning	15	45	93	47	2.14	1.46	Rejected
5	Lecturers have e-journals	74	86	33	7	3.13	1.77	Accepted
6	Lecturers have laptop	78	62	58	2	3.08	1.75	Accepted
7	Lecturers use flash drive, external hard drives for storing educational materials	115	41	29	15	3.28	1.81	Accepted
8	Lecturers have email account	103	52	28	17	3.21	1.79	Accepted
9	Recorded video and audio lectures are provided by the lecturers to students	3	30	67	100	1.68	1.30	Rejected

Source: Field Survey 2023

Table 2 revealed the mean responses on the efficiency of lecturers in the use of e-learning infrastructure in Federal Polytechnic Bali. Based on the cut-off point of 2.50, the result indicates that 4 items with a mean score ranging from 1.68 to 2.46 from the responses were rejected which shows the efficiency of lecturers in the use of e-learning infrastructure. However, items 3, 5, 6, 7 and 8 with the mean score of 2.97, 3.13, 3.08, 3.28 and 3.21 respectively, which is above the cut-off mark of 2.50 revealed the efficiency of lecturers in the use of e-learning infrastructure.

DISCUSSION OF FINDINGS

The result of the study relating to research question one on the level of utilization of e-learning infrastructure in Federal Polytechnic Bali reveals that only four items were rated above cut-off points, this shows that the e-learning infrastructure in Federal Polytechnic Bali is been utilized by the lecturers specially the once that are available are adequately utilized. The findings of the study are in agreement with the study of Jajere, & Bukar (2022) who noted that the teachers had interest in utilizing e-learning.

The results of Table 2 show that the research question two results on How efficient are lecturers in the use of e-learning infrastructure in Federal Polytechnic Bali reveals that the polytechnic lecturers are not efficient in the use of e-learning infrastructure. However, this may be due to lack of computer literate. this disagrees with the view of Pazhanimurugan (2023) effective use of e-learning materials will reinforcement strategy for effective learning

CONCLUSION

Utilization of e-learning infrastructure in federal polytechnic Bali is adequately utilized. It is obvious that many of the lecturer are not efficiently using e-learning infrastructure in teaching and learning. However, there is a need for awareness and training to familiarize the lecturers with the use of e-learning infrastructure looking at its benefits and application overweighing its challenges.

RECOMMENDATIONS

Based on the findings and conclusion of this study, the research recommended the following:

- To make sure lecturers stay current with e-learning resources, workshops, seminars and training sessions should be scheduled routinely.
- The management of the institution should encourage lecturers to use e-learning infrastructure for educational purposes.
- Adequate source of electricity should be supplied because e-learning cannot exist without such.
- E-learning infrastructure and facilities for ICT should be upgrade.
- The management should provide internet connectivity in the institution.

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