INTERNATIONAL JOURNAL OF INNOVATIVE APPROACHES TO LEARNING AND TEACHING
IJIALT

Lecturers' Effectiveness in the Use of Zoom Technology in College of Postgraduate Studies in a University in Nigeria

Okeke Ndidi Loretta

Department of Educational Management and Policy, Faculty of Education, Nnamdi Azikiwe University
ORCID: https://orcid.org/0000-0003-1424-157X
Email: on.loretta@unizik.edu.ng / 08037769698

Abstract

The study investigated the effectiveness of lecturers in the use of Zoom technology in teaching postgraduate students in the faculty of education. Two research objectives and two research questions guided the study. The population of the study was 353 lecturers in the Faculty of Education, Nnamdi Azikiwe University. The stratified random sampling and purposive sampling techniques were used to select a sample size of 48 lecturers for the study. Data was collected with an 18-item self-structured questionnaire titled "Lecturers Effectiveness in Using Zoom Meetings Questionnaire". The responses were structured on a four-point modified Likert scale of Strongly Agree, Agree, Disagree, Strongly Disagree. The questionnaire was validated by three experts in the field of education and computer science. The reliability of the instrument was tested using a test-retest method and a reliability coefficient of 0.77 was obtained. A total of 48 questionnaires were distributed and retrieved by the researcher. The collected data was analyzed, using mean responses. Findings revealed that lecturers were not effective in the use of Zoom technology in teaching and learning. In addition, various constraints were identified as the reason for their ineffectiveness. The study recommends that continuous intensive training should be organized for lecturers in the faculty on how to use Zoom features to make their teaching interactive and impactful. Furthermore, a high bandwidth network should be provided in the school environment to enable lecturers carry out their online teaching effectively.

Keywords: effectiveness, zoom meeting, technology, impediments, postgraduate

Introduction

Effective teaching is a source of students' academic performance and over the years research has been conducted by scholars to conceptualize the concept. However, the results gathered shows that the concept is multifaceted and no agreement among researchers on a single unified definition. Nevertheless, Devlin and Samarawickrema, (2010) summarized the concept to mean teachers' inputs, processes, and outputs. Teachers' inputs denote all the activities teachers integrate into the learning process to ensure effective teaching; the teaching process refers to the transformational process of knowledge from teacher to student which is compressed into planning, instructions, tests, and evaluation (Munna and Kalam, 2021); While teachers outputs are the end product of teachers inputs which is referred to as students' performance or outcomes. Generically, effective teaching is teaching that produces expected results in form of students' mastery of concepts, skills, attitudes and behaviour. Teachers' effectiveness is also extended to their use of technology in instructional delivery, especially since the emergency of the COVID-19 pandemic. Institutions of learning have seen the advantages of using eLearning tools in teaching and learning, the tools have been advancing and are more practicable in schools in providing lifelong learning (Okeke, 2021). It has also transformed the classroom environment from what it used to be in the past to the present day virtual classroom which allows students and teachers to connect and exchange ideas from anywhere in the world. Zoom video for instance came in 2011 and is now frequently used with over 300 million daily users (Vailshery, 2024). It is a cloud-based video conferencing platform that can be used for meetings, and conferences and can be used by mobile devices, laptops, desktops, and operating systems. Zoom allows students and academics to connect through virtual tutorials (Sayem et al, 2017). It allows users to schedule, launch, and run Zoom meetings and webinars (OWL LAB, 2023). Zoom meeting is a collaborative platform for interactive educational sessions; they allow equal audience participation and have fewer limitations

on speaking, it is also good for training workshops and hands-on activities (Ronning, 2024). In Zoom meetings, participants have the freedom to share audio, video and engage in discussion. It enables a high level of openness among individuals which is suitable for collaboration. Its uniqueness lies with some special features that make teaching and learning more refreshing and engaging.

Some studies have revealed that more than 55% of students could comfortably use Zoom technology (Hidayat et al, 2022; Ohiwerei and Nden, 2022). It allows lecturers to annotate their shared screens, making lessons more interactive. Teachers can prerecord their lessons and make them available to students who watch the lesson over time till they understand the focus of the lesson (Ohiwerei and Nden, 2022). Zoom meetings have features such as online white boarding which works exactly like the whiteboard in a classroom. It has registration functions that can be used for attendance, It has a waiting room function that ensures that uninvited guests are not allowed; There are reaction functions in the form of emojis; it also has chat functions where individuals can chat as well as ask questions. Instructors can insert URLs, pictures, and documents so that the entire class can see them and benefit. (Hagler, 2019) The breakout room functions enable group discussions and help students work collaboratively. Finally, it has live streaming functions and polling functions that allow the host to gather opinions and conduct surveys (Ronning, 2024). It also allows you to create a live webinar, connect with large online students, and share videos for better engagement. It is usually used for virtual events where information can be shared through experts.

A high level of efficacy has been identified by Reyes and Valle (2023) who noted that teachers in the Philippines were effective in using Zoom features. In addition Sayem, et al (2017) discovered that Zoom tutorial significantly reduced lecturers' workload without reducing the engagement levels of students. It also increases positive learning outcomes for diverse learners as well as encouraging higher education in remote areas (Sayem et al, 2017).

Another product of Zoom technology is Zoom webinars. It is also a form of video conferencing platform with live or pre-recorded presentations intended to help the host connect with large audiences, share information, and interact with attendees in real time (Salvatori, 2023). Its purpose is to promote products, train, educate, and communicate information to individuals and groups. Unlike in Zoom meetings, a webinar allows only the host to share audio and video. While the audience can participate through chats and polls. Both are effective and meet different needs.

Impediments in the use of Zoom technology

Despite the benefits of using Zoom to learn it has some drawbacks which can greatly affect the effectiveness of the technology. Low bandwidth impedes the successful use of Zoom, it affects sound and images. Loss of desire and physical interaction between teachers and learners. Some students still find it difficult to install Zoom, join classes, and share screens. This shortcoming can greatly affect the learning process. Some students lack the required resources for Zoom class, and many of them don't have Android phones or laptops and iPhones thereby exempting themselves from the class; Lack of capacity to accommodate more students (Zulu et al, 2021). Lack of preparedness among online teachers, poor awareness of the effectiveness of the Zoom tool. In addition, producing videos requires extra time and efforts. They are not as interactive as face-to-face classes (Zulu, Nalube, Changwe & Mbewe, 2021). Students and educators can experience Zoom fatigue during instructional delivery and this may affect learning. It is hard to read interpersonal cues from those who are remote. Zoom calls lack valuable opportunities for casual social interaction (Austin, 2021).

Recently, the School of Postgraduate Studies at Nnamdi Azikiwe University has designed an online postgraduate program that will enable all and sundry to acquire qualitative education and build the career of their dreams, it is also worthy to note that the university is located in the State capital where many civil servants and business men will prefer online program which will give them time to work

and study. In response to this development, the university organized a training program to equip the postgraduate lecturers on how to use UNIZIKs' learning management system and other technologies that will enhance students learning online. It was on this premise that this study was carried out to investigate lecturers' effectiveness in the use of Zoom technology in teaching postgraduate students in the faculty of education.

The purpose of the study in specific terms is to find out:

1. Lecturers' effectiveness in the use of Zoom meetings in teaching postgraduate students at Nnamdi Azikiwe University
2. Impediments to the use of Zoom technology in teaching postgraduate students at Nnamdi Azikiwe University

Research questions

The following research questions guided the study:

1. What is the lecturers' level of effectiveness in the use of Zoom meeting features in teaching postgraduate students at Nnamdi Azikiwe University?
2. What impediments do lecturers encounter in the use of Zoom meetings in teaching of postgraduate students at Nnamdi Azikiwe University?

Methods

The study is a descriptive survey designed to find out lecturers' effectiveness in the use of Zoom technology in teaching postgraduate students in the faculty of education. The population of the study was 353 lecturers in the faculty of education (based on 2023 available data in the Faculty of education, 2024). The population was stratified into ten departments in the faculty and purposive sampling technique was used to select 48 postgraduate lecturers. Data was collected with an 18-item self-

structured questionnaire titled "Lecturers Effectiveness in using Zoom meeting Questionnaire". The responses were structured on a modified four-point Likert scale of Strongly Agree, Agree, Disagree, and Strongly Disagree. The questionnaire was validated by three experts in the field of education, computer science and measurement and Evaluation. The reliability of instrument was determined with test re-test and was analyzed using Pearson Product Moment Correlation Coefficient and a reliability value of 0.77 was obtained indicating that the instrument was reliable. A total of 48 questionnaires were distributed and retrieved. The collected data was analyzed, using mean responses. A mean bench mark of 2.50 and above was interpreted as positive response while below was seen as negative.

Data analysis

Table 1: Mean responses of lecturers responses on their effectiveness in using Zoom technology in teaching postgraduate students

s/n	Items	SA	A	D	SD	Total	Mean	Remarks
1	I can organize a Zoom meeting with my students	14 56	10 30	12 24	12 12	122	2.54	Agreed
2	I can share screens to make lessons more interactive	9 36	11 33	14 28	14 28	125	2.60	Agreed
3	I can share my files and images with students	8 32	10 30	14 28	16 16	106	2.20	Disagreed
4	I can use powerpoint as a virtual background	7 28	10 30	16 32	15 15	105	2.18	Disagreed
5	I can record my lessons and send to students	8 32	10 30	12 24	18 18	104	2.16	Disagreed
6	I can use break out rooms to form discussion groups	9 36	8 24	17 24	14 14	98	2.04	Disagreed
7	I can manage students in a Zoom meeting	7 28	7 21	19 38	15 15	102	2.12	Disagreed
8	I can manage and collect polls from students	11 44	8 24	13 26	16 16	110	2.29	Disagreed
9	I can create a webinar	11 4	9 27	14 28	14 14	113	2.35	Disagreed
	Grand Mean						2.27	Disagreed

Table 1 shows that lecturers could organize Zoom meeting (2.54) and could share screens to make lessons interactive (2.60) but they failed in sharing files (2.20), using PowerPoint(2.18), record lessons

(2.16), use breakout rooms(2.04) and collect polls rom students during Zoom meetings (2.29). The grand mean of 2.27 indicates that they lecturers were ineffective in using Zoom features.

Table 2: Impediments to the effective use of Zoom technology in teaching postgraduate students

s/n	Items	SA	A	D	SD	Total	Mean	Remarks
10	Low bandwidth affects the effectiveness of Zoom	20 80	18 54	6 12	4 4	150	3.12	Agreed
11	Lecturers inability to use Zoom meeting	16 64	13 39	11 22	8 8	133	2.77	Agreed
12	Students' inability to install Zoom	9 36	9 27	15 30	14 14	107	2.22	Disagreed
13	Students inability to join class	10 40	8 32	15 30	15 15	117	2.43	Disagreed
14	Lack of the required resources to use Zoom	18 72	14 42	10 2	6 6	122	2.54	Agreed
15	Poor awareness of the effectiveness of Zoom	19 76	11 33	10 20	8 8	137	2.85	Agreed
16	It requires extra time to set it up	16 64	15 45	10 20	7 7	136	2.83	Agreed
17	It requires effort to manage	12 48	15 45	11 22	10 10	125	2.60	Agreed
18	Lecturers inability to make it interactive	16 64	12 36	9 18	11 11	129	2.68	Agreed
	Grand Mean						2.67	Agreed

Table 2 shows the responses of lecturers on the impediments to the effective use of Zoom technology in teaching and learning in postgraduate school. Respondents strongly agreed that low bandwidth (3.12), inability to use Zoom (2.77), lack of resources (2.54), poor awareness (2.85), insufficient time management (2.83), and poor interactive section (2.68) were all inhibitors to effective use of Zoom technology. However, inability to install Zoom (2.22) and join Zoom class (2.43) were not constraints to the use of Zoom technology in teaching and learning. The grand mean of 2.67 indicates the existence of impediments in the use of Zoom technology by lecturers.

Discussion of Findings

Table 1 revealed that lecturers were not effective in the use of Zoom technology in teaching postgraduate students. Many of them were not competent in the use of Zoom features. These findings contradict the findings of Reyes & Valle (2023) who noted that teachers in the Philippines were effective in using Zoom features. The contrast in the findings could be due to the newness of the online program in the studied institution. It is possible that majority of the lecturers might not have developed competency in using Zoom features. The implication of this findings is that online students will achieve lower academic performance than their in-class counterparts since the lecturers lack the competency required for an effective online program. However, there is a possibility that with constant usage the lecturers will acquire efficacy.

The result presented in Table 2 indicates that the use of Zoom technology in teaching is surrounded by various impediments that have hindered the effectiveness of the tool. These findings are supported by Austin (2021) and Reyes & Valle (2023) who identified slow internet connections, and poor awareness as major constraints to the effective use of the technology. Internet connectivity is the bedrock of Zoom meeting. Zoom requires strong network and enough data to support its high bandwidth. Furthermore, the poor awareness of Zoom as an effective tool for educational delivery is another serious impediment that can frustrate online classes. The implication of this findings is that teaching with Zoom technology will be ineffective in the postgraduate schools thereby frustrating the online program in the faculty. It is also important that lecturers know the online tools available and how to effectively use them. Hence the need for the university management to take vigorous actions to mitigate Zoom meetings constraints to foster robust online learning through Zoom technology.

Conclusion

The study concludes that lecturers are not effective in the use of Zoom meetings features in teaching postgraduate students due to some identified constraints. Based on the findings, the study recommends that continuous intensive training should be organized for lecturers in the Faculty on how to use Zoom features and also make their teaching interactive. In addition, high bandwidth should be provided in the school environment so that Zoom meetings will be more effective.

References

Austin, A. D. (2021). The pros and cons of 7 digital teaching tools. Harvard business publishing education. Retrieved from www.hbsp.harvard.edu

Devlin, M. and Samarawickrema (2010). The criteria of effective teaching in a changing higher education context. Higher education research and development, 29(2); 111-124; https://doi.org/10.1080/07294360903244398

Hagler, A. (2019). The pros and cons of teaching with Zoom. Retrieved from www.teachingushistory.com

Hidayat, S; Lovita. I. D and Nupratiwi, A. (2022).The effect of online learning using zoom meetings at elementary schools. *International journal technology in education and science; 6(4);* https://doi.org/10.46328/ijters.367

Munna, A. S; Kalam, M, A. (2021). Teaching and learning process to enhance teaching effectiveness: A literature review; *International journal of humanities and innovation;, 4(1); 1-4*

OWL LABS Staff (2023). Everything you need to know about Zoom. Retrieved from www.resources.owllabs.com

Okeke, N. L. (2021). E-learning as an effective method of education delivery in Nigeria. *Journal of qualitative education, 14(1); 150-159*

Ohiwerei, F. O and Nden, N. M. (2022). Use of Zoom technology for teaching and learning among undergraduate students of Ambrose Ali University Ekpoma, Edo State. Nigeria, *International journal of innovative information systems and technology research, 10(1); 25-40*

Reyes, J and Valle, J. D. (2023). Teachers' efficacy with the use of technology in teaching English *International journal of educational management and development studies; 4(1); 25-48* https://doi.org/10.53378/352961

Ronning, G. (2024). Zoom meetings vs webinar: understanding the differences and best uses. Retrieved from www.stealthseminar.com

Salvatori, H. (2023). 11 benefits of webinar. Retrieved from www.cvent.com

Sayem, A. S. M; Taylor, B; Mcclanachan, M & Mumtahina, U (2017). Effective use of Zoom technology and instructional videos to improve engagement and success of distance students in Engineering. Proceedings AAEE2017 conference, manly, Sydney, Australia; 1-6

Vailshery, L. S. (2024). Zoom daily participants worldwide 2019-2020. Retrieved from www.statista.com

Zulu, J., Nalube, P, Changwe, R & Mbewe, S. (2021). The challenges and opportunities of using Zoom app in the teaching and learning of Mathematics in higher education institutions during COVID-19 pandemic: Lecturers' and students perspective. *International journal of research and innovation in applied science, VI (VII); 92-101*

Author's Biography

Dr OKEKE Ndidi Loretta is a Doctor in Educational Management who specializes in "Innovation and Change; Leadership Practices; and Quality Teaching" in Education. She is currently teaching in the Faculty of Education at Nnamdi Azikiwe University, Nigeria. She has served as a teacher for four years (2020 to 2024) and at the tertiary level of education. She has published in reputable journals. Email: on.loretta@unizik.edu.ng ORCID: https://orcid.org/00000003-1424-157X