



LECTURERS' AWARENESS AND INTEGRATION OF LEARNING SPACE TECHNOLOGY FOR INSTRUCTIONS IN NIGERIA

Odewumi, M. O¹,✉

¹Department of Educational Technology, Faculty of Education, University of Ilorin, Nigeria

Article Info

Article History:

Received August 2020

Accepted September 2020

Published December 2020

Keywords:

Learning Spaces, Space, Instruction, Teaching and Learning

Abstract

Learning Space is imperative in content delivery in institutions of higher learning. However, despite its value and worth to instructional delivery, the awareness and integration to instruction in Nigeria University by the lecturers have not been significantly established. Therefore the objectives of this study were to examine the lecturers' awareness of learning space and investigate the lecturers' integration of learning space for instruction at the University of Ilorin, Nigeria. The study was of a descriptive nature and cross-sectional survey. 120 lecturers was sampled in the faculty of education, University of Ilorin, Nigeria. Stratified sampling procedure, was used to grouped lecturers along gender. The self designed questionnaire was administered to 120 lecturers of 60 males and 60 females. Mean scores was utilised to answer research questions. Research hypotheses were tested with t-test statistical analysis at 0.05 level of significance. The findings of the study were that lecturers had positive awareness and integration of learning space technology for instructions delivery at University of Ilorin Nigeria. The study further recommended that lecturers should be encouraged to have more knowledge of learning space for teaching and learning and they should be educated on how to use learning space for their various instructions.

© 2020 Universitas Negeri Semarang
p-ISSN 2252-6617
e-ISSN 2252-6232

✉Correspondence author:

Odewumi, M. O

Department of Educational Technology, Faculty of Education, University of Ilorin, Nigeria

Email: agbegilerebubnmi2@gmail.com

INTRODUCTION

21st century ushers in technology of instructional delivery. Although studies emphasises teaching from abstract to real, the study of Odewumi and Falade (2015) advocated normal classroom teaching with the teacher as the manager for effective knowledge impartation. Technology has brought changes and influences classrooms setting in diverse ways, bringing a more facilitating (Scott, 2015) and also as a unique arena to education globally (Yunus, Salehi & Chenzi, 2012). Technology recognises space for instruction along side the content and curriculum for development of learners (Ogunlade, Olafare & Ayuba, 2016). Brown (2005) argued that practical involvement and the successful carrying out of Information and Communication Technology in learning spaces has demonstrated adequate support to the needs and expectations of learners in the new generation. Oblinger (2005) submitted that technology is not stagnant, it is always in transition but influences individual perceived use of spaces in both virtual and physical world. Therefore both the digital and analogue space is needed in learning space to develop students' behavioural attitude toward instruction which influences by the faculty members' (Gurung, Daniel & Landrum, 2012).

In another development, Agboola and Haruna (2017) mentioned that students attitude towards instruction depends on their exposure to learning environment, the space they are and method of teaching from the instructor. The students success in learning has been attributed to many factors, whereas, the study of Miller and Butler (2011) declared that students judicious engagement of their time, energy and visible constraint on their studies as a factor. Also, the study of Miller, Amsel, Kowalewski, Beins, Keith, and Peden (2011) recognised cognitive skills, personal growth and college adjustment as inclusive in this factor. Michalak, (2014) stressed environmental conditions as also a variable that has great effect on the students performances in teaching and learning in both the virtual and physical space. Despite the aforementioned factors, the physical environment and classroom space

promotes positive impact on the teaching and learning.

Furthermore, Wilson and Randall (2012) confirmed that the sitting arrangement with comfortable furniture facing the chalkboard on traditional learning setups has a way of improving learners' domains. The author concluded that a well designed classroom, promotes interactivity between students and the instructor. Barrett and Zhang, (2015) pointed out that classroom enhances and improves learning settings through individual and group work. Also, Oblinger (2006) stated that the traditional classroom mode of rows of desks in a single line, facing the instructor in the front is replaced with the technology-infused virtual classrooms on flexible seating furniture of learners. How People Learn (2003) stressed that the changes has also affected the method of education from lecture-based to collaborative and learning types in either space and virtual environment. In essence, individual learning is favoured much on virtual learning space, because of the advantages of learning at any time and in any environment with and without the physical instructor (Leiringer & Cardellino, 2011).

The study by Kuuskorpi and González, (2011) affirmed that space in Learners' instruction has been highlighted and is very crucial to educational system. Singh (2014) submitted that classroom environment is of importance to students' performance and behaviours, therefore the space should be conducive for learning. Also, Salary, Holliday, Keesee and Wachter (2018) agreed that school architecture also influences students' learning pedagogy, therefore it should be constructed to give way for ventilation, spacious, and be lightened. Similarly, Hilal (2014) suggested that traditional seating arrangement has predominated teacher-centred and still in existence till today. Dunlosky, Rawson, Elizabeth, Marsh, Nathan and Willingham (2013) recommended enough spacing for both learners and the instructor during instructional exercise for easy collaborative and individual task. In essence, the learning space consists of the available structures, open space such as

group study space, gathering arena, lawn, classroom, library and laboratory.

The nature of Learning Space has been debated by researchers in diverse ways. For example, Wood, Teräs, Reiners and Gregory (2013) described learning spaces as a gap in which learning actually taken place. It obvious that learning space is found in the cultural venues, work places, shopping centres and so on, taking advantage of advancement in technologies thus suggesting that e-university would probably replace the physical campus in the years to come. Also, Johnson and Lomas (2005) explained that learning space is part of the theories mostly inculcated and acceptable for higher institutions of learning. Thody (2008), and Bannister and Ayre (2017) explained that learning space is an arena purposely for learning activities.

Brown (2005) submitted that learning spaces are inseparable in the institutional programmes because they are the solid foundation in which other learning equipment are laid. Wilson and Randall (2012) described learning space as traditional classroom scenery and inculcating of the existing physical and virtual arena. Al-Baiati (2006) expressed virtual learning space to include laboratory where most of the information and communication technological resources are kept for practical activities on electronically programmed for access of the students. Falade (2013) associated learning space with classroom-based, m-learning and e-learning mode of instruction. In essence, Many studies confirmed learning space has a significant factor that influences students in their engagement in learning (Beichner, 2014) ; McArthur, 2015). In essence, judicious use of learning space would definitely influences learning in positive ways in the part of the learners and instructors.

Many Studies have been done on learning space and its positive influence on higher education. For example, Temple (2007) researched into space and positive effect on the higher education. It was recommended that constant evaluation are of benefits and important to improve existing learning space. Wilson and Randall (2012) studied implementation and evaluation of learning

space. The study revealed that learning space creates adequate spacing and promotes leaning in higher institution. Parshekofti (2014) worked on physical space in students' learning environment and academic achievement motive. The study of MacDonald (2004) mentioned that the students place more emphasis on the uses of supportive learning space like library and ICT facilities. Wiers-Jenssen, Stensaker and Groggaard (2002) submitted that some learning environment such as lawn, lobby, and shade arena bring and support social interactions, thereby encouraging positive learning. In essence, Granito and Santana (2016) studied psychology of learning space and its impact on students' instruction and recommended that instructor should bring these learning spaces together for the advancement of learning in institutions (New Media Consortium (NMC) ,2017).

Studies have mentioned different learning space in the context of higher institution. For example, the study of JISC (2006) stressed Laboratories as an important learning space that is in existing in institution. Others are Burdet, Bontron and Burgi (2007) mentioned lecture theatres. Gibbons and Foster (2007) cited school library, lawn for different sports and available spaces where learners comes together for interaction. In essence, any available space that hosts teaching and learning equipment, tools and materials for the purpose of achieving the stated educational objectives within and outside the school environ are inclusive in the learning space. In addition, all the mentioned space are working together to achieve the stated educational goals in higher institution.

Researchers stated peculiar setback associates with Learning Space in higher institution of learning. Despite the learner is unique with his/her character. This guides the instructor in exposing them to active participation in diverse ways. Brooks (2011) stated that effectiveness of learning space is a prerequisite for achieving stated objectives of teaching and learning. Similarly, Parshekofti (2014) identified a number of considering factors in providing instruction to the reach of learners in learning space. Studies have identified the problems relating to learning space in teaching

and learning. Boethel and Dimmock (2005) mentioned inadequate training of qualified instructors with potential of implementation is a big problem of learning space. The authors further mentioned scarcity and unavailability of use of ICT equipment as constituting to another problem. In essence, the study of Imms, Cleveland and Fisher (2016) recommended proper training of personnel for ICT utilisation, in order to bring innovation to students' entry behaviour as a solution to aforementioned problems. The instructors with adequate use of ICT in the learning space would bring positive changes to learners' behaviour within the reach of students.

The Functional Theory on Space has the theory based on the study of Kearney and Maher (2013) mentioned that the theory of socio-cultural, acknowledged three distinctive traits in learning that are authentic, personalization and collaboration in the usefulness of learning (Ryan, 2016). Also, the Cognitive Theory of Multimedia Learning (CTML) of Venkatesh (2000) declared factors influence the users' acceptance, rejection or use of a new technology. Similarly, the Theory of Reasoned Action (TRA), from Davis (1989) initiated and widened Technology of Acceptance Model, alongside with a theoretical situation of inter relationship among the different variables. The theory further argued on the claim by Bionco (2013) that awareness of the educational policy of a programme helps the instructors in their various classroom practices, through the learning space for teaching. Learning becomes increasingly positive and progressively favours students. The teachers' experience increases daily and becomes broad. Despite this Learning space is still ineffective and under-used by most educators in higher institution of learning. It is on this vision, that the study addresses the lecturers' awareness and integration of learning space technology for instruction in the faculty of Education, University of Ilorin, Nigeria.

The present study which is the awareness and integration of lecturers towards the learning space technology for instructions in Nigeria university, the study treated both awareness and

integration variables in relating to the learning space technology

The purpose of the study is to examine the awareness and integration of learning space for delivery of instructions in Nigeria University by the lecturers. To achieve this stated objectives were pursued.

1. Examine the lecturers' awareness of learning space at the University of Ilorin, Nigeria.
2. Investigate the lecturers' integration of learning space for instruction at the University of Ilorin, Nigeria.

These research hypothesis were tested within this study

1. There is no significant difference in the male lecturers' and female lecturers' awareness in the learning space for instruction at the University of Ilorin, Nigeria.
2. There is no significant difference in the male and female lecturers' lecturers integration of learning space for instruction at the University of Ilorin, Nigeria.

METHODS

The study was a descriptive designed type. The sample consisted of all the lecturers in the faculty of Education University of Ilorin, Nigeria. 120 lecturers were purposively sampled randomly, 60 male and 60 female. The instrumentation was the researcher's designed questionnaire based on awareness and integration of learning space. The content and face validity of the study instrument was done by a lecturers that specilises on test measurement and evaluation, psychology, teachers education and educational technology at University of Ibadan, Nigeria. For reliability, the instrument was further administered on 25 lecturers of the faculty of Education at Obafemi Awolowo University Ile Ife, Nigeria. The split half method of data analysis was used and computed with the Cronbach's alpha in the SPSS packages version 2.1 to run the data. The reliability values were 0.81 for awareness and integration 0.71 at 0.05 level of significance. The frequency count and mean average values of data collected was used to answer the research question 1 and 2, and the t-test statistic was used to test hypothesis 1 and 2.

RESULTS AND DISCUSSION

Table 1. Lecturers' awareness of learning space for instruction in Nigeria University

S/ N	Items	Me an
1	I have the awareness of learning space for my teaching carrier.	3.68
2	I utilise learning space in accompany the stated objective of my teaching	3.89
3	I have fore knowledge of learning space.	3.92
4	I learn more about learning space through my mate.	4.05
5	The concept of learning space in instruction is ambiguous to me	4.06
6	Learning space is learners-centred	4.03
7	Learning space can be group along with the emerging trend	3.85
8	Learning space assists my teaching	3.94
9	There is adequate learning space at my disposal	3.83
10	Utilising learning space in teaching makes my learning profitable	3.76
	Grandmean	3.90

Table 1 disclosed that the item which stated that the concept of learning space in instruction is ambiguous to me, was ranked highest with the mean score of 4.06. Followed by learn more about learning space through my mate, having a mean of 4.05. When, the lowest mean score of 3.76 was from the statement that utilising learning space in teaching makes my learning profitable. The grand mean score was 3.90. It can then be inferred that lecturers are fully aware of the learning space for instruction in Nigeria University.

Table 2. Lecturers integration of learning space for instruction at the University of Ilorin, Nigeria.

S/N	Items	Mean
1	Learning space regulates learners sitting arrangement.	3.67
2	It organises and holds the attention of my instruction.	4.08
3	It serves as a supportive measure for my teaching job.	4.05
4	Learning space clarifies resources used in my instruction.	3.90
5	Learning space helps me to solving instructional problem	4.03
6	Learning space provides collaborative and active learning.	3.95
7	Learning space allows learners to feel sense of belonging.	3.89

8	Learning space regulates individual learners learning at their own rate	3.85
9	Learning space allows me to share the workload successfully	3.83
10	Learning space promotes successfully working together with others	3.76
	Grandmean	3.92

Table 2 revealed that the item which stated that Learning space regulates learners sitting arrangement, is having the lowest mean score of 3.67. The items with the statement that learning space organises and holds the attention of my instruction, was ranked highest having 4.06 as it's mean. Also, learning space serves as a supportive measure for my teaching job having a mean of 4.05. The grand mean score was 3.90. It can then be deduced that lecturers are fully integrate learning space to instruction in Nigeria universities.

Table 3. t-test statics on lectures awareness of learning space.

VARIA BLES	N	Me an	Std. Deviation	df	t- val ue	Sig.(2- tailed)
Male	60	48.33	18.125	118	-3.897	.065
Female	60	59.83	13.929			

Table 3 clearly depict the comparison of the mean score of the lecturers of the gender (male and female) on the awareness of the learning space for releases educational content in view of instruction at the University of Ilorin, Nigeria. The calculated p-F value of .065 is greater than .05 alpha level. This result explain clearly the hypothesis. Therefore, the null hypothesis 1 is not rejected.

Table 4. T-test statics on lectures integration of learning space.

Variabels	N	Me an	Std. Deviation	df	t- valu e	Sig.(2- tailed)
Male	60	32.83	12.397	118	-0.74	.994
Female	60	33.00	12.288			

Table 4 shows the comparison of the mean score of the both male lecturers' and female lecturers' on the integration of learning space into learning. The calculated p-F value of .994 is higher than .05 alpha level. This result shows that there is no significant difference between the male lecturers' and female lecturers' on integration of learning space for instruction at the University of Ilorin, Nigeria. Therefore the hypothesis 2, is not rejected.

DISCUSSION OF FINDINGS

This study of lecturers' awareness and integration of learning space technology for instructions in Nigeria university is significantly positive. The hypothesis one and two were rejected based on reference to the research findings. These agreed with the earlier finding of Wilson and Randall (2012) that revealed information sharing of recognized learning space in the course of accessibility the teachers and students for instruction. The findings conform to the conclusion of Gibbons and Foster (2007) who declared that availability of structures and equipment are positively influence the stated objectives of teaching and learning are the learning space. Also, the findings agreed with Parshekofti (2014) that established a clear significant relationship between the learning space. Temple (2007) who confirmed role of learning space as having positive effect on higher education. Also, it was in agreement with the findings of Brooks (2011) who study revealed the effectiveness of learning space stated teaching and learning objectives. The study concurs with Sztentjnberg and Finch (2006) who revealed the positive of traditional seating arrangement to teaching in a learning space.

The findings agreed with that of Falade (2013) who stated the significance of e-learning and m-learning on teaching and learning process in a learning space. It also support the study of Wilson and Randall (2012) who stressed the evaluation and implementation of the new and existing learning space in higher institution of learning. It was in line with Granito and Santana (2016) who concluded that space within learning environment contributes effectively to teaching-learning process. Also,

Gifford (2002) who concluded that open learning space provides a positive teaching strategy and increases learning ability of students'.

In essence, the findings also prove a distinct relationship between awareness and integration of learning space for teaching and learning in university.

CONCLUSION

The findings in the study also revealed that lecturers are aware of learning space and they have been considering its use in instructions and there was a positive significance of learning space in the University of Ilorin Nigeria. This findings and the conclusion can be now generalized to greater extend, because the study is related to the learning space globally.

RECOMENDATIONS

This study makes the following recommendations based on the findings:

- Lecturers should be encouraged to have a proper and more knowledge of learning space for teaching and learning.
- Lecturers should be educated on how to use learning space for their various instructions.
- Curriculum developers should embrace student-centred that will take care of learning space approach in the teaching and learning.

REFERENCES

- Agboola, O. S., & Haruna, J. O. (2017). Effect of physical and virtual laboratory experiment on students learning outcome in basic science in Ife Central Local Government Area Osun State. *Journal of Curriculum and Instruction*, 10(2), 186-198.
- Al-Baiati. (2006). The applied and scientific dimensions in electronic learning. *The Arabian Net for Open Electronic Learning*.
- Bannister, D. (2017). Guidelines on Exploring and Adapting Learning Spaces in Schools. *European Schoolnet, Brussels*.

- Barrett, P. S., Zhang, Y., Davies, F., & Barrett, L.C. (2015). *Clever Classrooms: Summary of the HEAD project*, University of Salford.
- Beichner (2014). *History and Evolution of Active Learning Spaces, New Directions for Teaching and Learning* no.137 Spring 2014. Wiley Periodicals
- Bionco, J.L., Hornberger, N.H., & McKay, S.L. (2010). Language policy and planning. *Sociolinguistics and Language education*, 18, 143.
- Boethel, M., & Dimock, K.V. (1999). *Constructing Knowledge with Technology: A Review of the Literature*. Southwest Educational Development Laboratory, Austin.
- Brooks, D. C. (2011). Space matters: The impact of formal learning environments on student learning. *British Journal of Educational Technology*, 42(5), 719-726.
- Brown, M. (2005). *Learning Spaces*, in D Oblinger, *Educating the Net Generation*, Educause, Boulder.
- Burdet, B., Bontron, C., & Burgi, P. Y. (2007) Lecture capture: what can be automated? *Educause Quarterly*, 30(2),40-48.
- Davis, F. D. (1989). Perceived usefulness ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3),319-340.
- Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J. & Willingham, D. T. (2013). Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology. *Psychological Science in the Public Interest*, 14(1) 4–58.
- Falade A. A. (2013). Stakeholders' perception of integration of information technology and communication technology (ICT) in Open and Distance Learning in Nigeria. (Unpublished Ph.D. thesis). Department of Educational Technology, Faculty of Education, University of Ilorin. Nigeria, 34-56.
- Gibbons, S. & Foster, N. F. (2007). Library design and ethnography. *Studying students: The undergraduate research project at the University of Rochester*. Chicago: ALA.
- Granito, V. J. & Santana M. E (2016). Psychology of learning spaces: impact on teaching and learning. *Journal of Learning Spaces* 5 (1),1-8.
- Gurung, R. A., Daniel, D. B., & Landrum, E. (2012). A multisite study of learning in introductory psychology courses. *Teaching of Psychology*, 39(3), 170-175.
- Hilal, U. S. (2014). *Effects of different seating arrangements on learning experience: the case of medium sized lecture settings in Bilkent University*. (Doctoral dissertation, Bilkent University).
- Imms, W. Cleveland, B. and Fisher K. (editors) (2016) *Evaluating learning environments: snapshots of emerging issues, methods and knowledge*. Sense Publishers
- JISC. (2006). Designing spaces for effective learning: A guide to 21st century learning space design. *Higher Education Funding Council for England (HEFCE) on behalf of JISC*.
- Johnson, C., & Lomas, C. (2005). Design of the learning space. Learning and design principles. *Educause Review*, 40(4),16-28.
- Kearney, M., & Maher, D. (2013). Mobile learning in math teacher education: Using iPads to support pre-service teachers' professional development. *Australian Educational Computing*, 27(3),76-84.
- Kuuskorpi, K., & González, N. (2011). *The Future of the Physical Learning Environment: School Facilities that Support the User*.
- Leiringer, R., & Cardellino, P. (2011). Schools for the twenty-first century: School design and educational transformation. *British Educational Research Journal*, 37(6), 915-934.
- MacDonald, M. (2004). UCE student satisfaction survey 2004. Birmingham: University of Central England
- McArthur, J.A. (2015). Matching instructors and spaces of learning: The impact of space on behavioural, affective and cognitive learning. *Journal of Learning Spaces*, 4(1),1-16.

- Michalak, R. (2014). Environmental factors and literacy learning and instruction (Doctoral dissertation).
- Miller, R. L., & Butler, J. M. (2011). Outcomes associated with student engagement. *Promoting Student Engagement*, 1.
- Miller, R. L., Amsel, E., Marsteller Kowalewski, B., Beins, B. C., Keith, K. D., & Peden, B. F. (Eds.). (2011). Promoting student engagement (Vol. 1): Programs, techniques and opportunities. Society for the Teaching of Psychology.
- National Academy of Sciences-National Research Council, Washington, DC. (1999). *How people learn: Brain, mind, experience, and school*. ERIC Clearinghouse.
- New Media Consortium (NMC) (2017). Horizon Report K-12 Edition NMC, COSN, Mindspark Learning. U.S.
- Oblinger, D., & Lippincott, J.K. (2006). *Learning spaces*. Boulder, Colo,...: EDUCAUSE, c2006. 1 v. (various pagings): illustrations.
- Odewumi, M. O., & Falade, A. A. (2015). Impact of computer assisted instruction packages on junior secondary creative arts in Ogbomoso, Nigeria. *International Journal of Information Processing and Communication*, 3 ,185-196.
- Ogulande, O., (2016). Individual and Technological Factors Affecting Undergraduates' Use of Mobile Technology in University of Ilorin. *Digital Education Review*, 29, 124-133.
- Parshekofti, N. S. (2014). Studying the Effect of Physical Space of Learning Environment on Students' Academic Achievement Motive: (Case Study: Payam-e-Nour University, Qeshm International Branch) *International Journal of Academic Research in Business and Social Sciences*, 4(7),112-119.
- Ryan (2016) Creating collaborative learning spaces, *Technology and Learning* 36(7),19.
- Salary, S., Holliday, L., Keesee, M., & Wachter, H. (2018). Building features in schools that influence academic performance. *Journal of Civil Engineering and Architecture*, 12(3) 163-197.
- Luna Scott, C. (2015). *The Futures of Learning 3: What Kind of Pedagogies for the 21st century?* Unesco Org.
- Singh, A. (2014). Conducive classroom environment in schools. *International Journal of Science and Research (IJSR)*, 3(1), 387- 392.
- Sztenjnberg, A & Finch, E. (2006). Adaptive use patterns of secondary school classroom environments. *Facilities*, 24(13-14), 490-509.
- Temple, P. (2007). *Learning Spaces for the 21st Century*. Higher Education Academy.
- Thody, A. (2008). Learning landscapes for universities: mapping the field [or] Beyond a seat in the lecture hall: a prolegomenon of learning landscape in universities.
- Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the Technology Acceptance Model. *Information Systems Research*, 11(4), 342-365.
- Wiers-Jenssen, J., Stensaker, B., & Groggaard, J. (2002), 'Student satisfaction: towards an empirical deconstruction of the concept'. *Quality in Higher Education*, 8 ,183-95.
- Wilson, G., & Randall, M. (2012)."The implementation and evaluation of a new learning space: A pilot study" *Research in Learning Technology*, 20(2),1-17.
- Wood, L. C.. Teräs, H., Reiners, T., & Gregory, S. (2013). The role of gamification and game-based learning in authentic assessment within virtual environments. *Research and development in higher education: The place of learning and teaching*, 514-523.
- Yunus, M. M. Salehi, H., & Chenzi, C. (2012). Integrating social networking tools into essay writing classroom: strengths and weaknesses. *English Language Teaching*, 5(8), 42-48.