

UNDERGRADUATES' AWARENESS, PERCEPTION AND UTILIZATION OF EMERGING TECHNOLOGIES IN THE UNIVERSITY OF ILORIN, ILORIN NIGERIA

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Abstract

Emerging technologies in different fields of science, engineering, medicine and education among others had greatly influenced research development which in return had immensely enhanced development in terms of efficiency, ease of use, speed and effectiveness. This study was conducted to determine the awareness of undergraduates towards utilization of emerging technologies for learning; determine the level of utilization of emerging technologies among them; and examine their perception towards utilization of emerging technologies for learning in the University of Ilorin. Descriptive survey design was adopted for this research and a total of 100 questionnaires were used in data collection. Percentage and mean scores were used to analyze the data. The study revealed that undergraduate students of university of Ilorin are aware of emerging technologies; they use emerging technologies for learning and have a positive perception towards utilization of emerging technologies for learning with grand mean of 3.19, 3.26 and 3.01 respectively. The study recommended that; Government should formulate policies for awareness programmes on emerging technology for undergraduates and incorporate it in the university education curriculum, Lecturers should involve students more on utilization of emerging technology to derive the benefits hands-on learning has to offer; and provide enabling environment to facilitate proper learning skills and enhance their cognitive development.

Keywords: *Emerging Technologies, Awareness, Perception, Undergraduates.*

Introduction

Information and Communication Technology (ICT) describes a range techniques and devices used to gather, store, process and transmit information. According to Hoque, Razak, and Zohora (2012), integrating ICT in undergraduates training is high on the educational reform agenda of both developed and developing countries. For developing countries, ICT can be seen as a way to merge and even leapfrog into a globalizing, technological world. Yet in practice utilization of ICT for teaching is limited at best. Much research is therefore done on factors influencing or constraining utilization of ICT in teaching and learning. Virtually, every aspect of the society is affected by technology today. New invention emerges daily, struggling for the attention of people to its diverse usages. Emerging

Technologies had greatly impacted educational development in higher institutions across the world. Emerging technologies (ET) are those technical innovations which represent progressive developments within a field for competitive advantage. They include a variety of technologies such as educational technology, information technology, nanotechnology, biotechnology, psychotechnology, robotics, wireless data communication, man-to-machine communication, on-demand printing, artificial intelligence Machine Learning, Mobile/Social learning, Augmented Reality, Mobile Technologies, Human-Computer Interaction, Collaborative Tech, Cyber security, New Torch Interface, Voice Assistance, Google Classroom, Camtasia, Elucidat, Tableau, blogs, e-books, WeVideo, Soundtrap, Minecraft and podcast among others which have great impact on teaching, learning, or creative inquiry on learners (Bozalek, 2011). The law dictionary defines ET as new technologies that will substantially alter the business and social environment.

They are characterized by radical novelty, relatively fast growth, coherence, prominent impact, and uncertainty and ambiguity. In other words, an emerging technology can be defined as a radical novel and relatively fast growing technology characterized by a certain degree of coherence persisting over time and with the potential to exert a considerable impact on the socio-economic domain(s) which is observed in terms of the composition of actors, institutions and patterns of interactions among them, along with the associated knowledge production processes. Its most prominent impact, however, lies in the future. Bozalek (2011) buttressed that mobility in ET expands learning across space and time and opens many opportunities for learning that is neither sequential nor consistent. Sloan (2006) opined that ET represent a new paradigm that at first grows on the edge in relative obscurity and often seems to be of no threat or even of little value to users of the sustaining technology. Bozalek continues to say that emerging technologies in education can be used in innovative ways to address issues of inequity and social exclusion. Recent developments in digital technologies, especially web 2.0 tools such as blogs, wikis, social media and mobile devices (phones and tablet) have given the end user much more control over access to the creation and sharing of information and knowledge. ET empower learners and innovative instructors are also finding ways to harness this media to increase motivation of learners through relevant activities (Nord, 2013). Teo, (2009) discussed the problems facing integration of (ET), actualizing on lack of some technological resources, such as books, audio visual software, audio visual hardware and other pedagogical resources.

Field	Emerging Technologies
Education	Cloud computing, Artificial Intelligent (AI), Machine Learning, Big Data, Immersive Data, Augmented Reality, Collaborative Tech, Google Classroom, WeVideo, ExplainEverything, Games and Gamification, Virtual and Remote Laboratories, Voice Assistance, Articulate Storyline, Camtasia

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Manufacturing	Automation, Robots, Human, Computer Interaction, Virtual and Remote Laboratories, Advanced Materials, 3D Printing, Algorithms for quantum computers, Atmo-vortex engines
Military	Artificial Intelligent (AI), Machine Learning, Electromagnetic weapons
Medical	Voice Assistance, Nanotechnology, HealthTech, Implantable drug-making cells, Gene drive, Plasmonic materials, Electroceuticals, Personalised medicine, AI-led molecular design
Communication	Internet of things (IOT), Mobile/Social learning, Mobile Technologies, Cyber security, New Torch Interface, Soundtrap, WeVideo, Wireless Power, YouTube

Figure 1: Category of Emerging Technologies

Source: The thirty Technologies of the next Decade by Sean Moffitt @seanmffitt, https://en.wikipedia.org/wiki/List_of_emerging_technologies

However, with the emergence of these technologies in addition to their benefits to the society especially the undergraduates, it is still subject to the awareness and perception of people towards it to be able to aid and completely fulfill the objective of which it was created. Awareness and Perception are two major determination of the stage of these emerging technologies; this is because they affect the attitudes and behavior of undergraduates in the usage of these technologies. If we can find out the level of awareness undergraduates have about these emerging technologies as well as their perception towards it, then we can know how best to influence them in order that they can be active participants of the evolving technological learning environment as well as compete with their counterparts in the outside world. It is worrisome that many people are not yet aware and updated about these (ET) and their usage.

Statement of the Problem

We live in a highly technological world. New models of past technologies keep emerging and one must be well informed to know most of these things. The life span of an invention these days are so short because an upgraded model emerges every time and gradually that technology disappears without maximum utilization. A notable point of consideration is the fact that e-learning has not reached the explosive growth figures which were formerly predicted in the mid-1990s. Scholars and Industry representatives are now turning their attentions towards mobile learning (Feng, Hoegler, & Stucky, 2006). Many undergraduates are not aware of some of these emerging technologies in education while some exercise some fear or reservation towards using them. The role of awareness and perception in utilization of emerging technologies for learning cannot be overemphasized. We truly cannot deny the fact that these technologies have positive effects on the society especially Nigeria's education sector, but without proper knowledge summed up with the right perception, these technologies are as good as useless because there will be no effective utilization. Therefore, this research is conducted, in order to

find out the undergraduates' awareness and perception towards utilization of emerging technologies in the University of Ilorin, Ilorin Nigeria.

Purpose of the Study

The main purpose of this study is to assess the awareness of and perception of undergraduates towards utilization of emerging technologies in university of Ilorin, Ilorin, Kwara State. Specifically, the study:

1. determined the level of awareness undergraduates have towards utilization of ETs for learning in the University of Ilorin;
 2. determined the level of utilization of ETs among undergraduates of University of Ilorin; and
 3. examined the perception of Undergraduates towards utilization of ETs for learning in the University of Ilorin.
- Research Questions

This study sought to provide answers to the following research questions: 1. What is the level of awareness of undergraduates towards utilization of ETs for learning in the University of Ilorin?

2. What is the level of utilization of ETs among undergraduates in the University of Ilorin?

3. What is the perception of Undergraduates towards utilization of ETs for learning in University of Ilorin?

Methodology

The study adopted descriptive survey design. The population of this study comprised all undergraduate students in the faculty education, the sample population were all undergraduates in the department of educational technology, faculty education in university of Ilorin. Simple random sampling was employed to select 150 respondents for the study Out of the 150-questionnaire administered, 115 were returned, 35, were not returned while 15 were not properly filled. 100 questionnaire were completely and appropriately filled. Data collected were analyzed using simple percentage and mean. All analyzed data are represented on tables.

Data Analysis and Results Table 1: Distribution of the Respondents Based on Gender

Gender	Frequency	Percentage
Male	56	56
Female	44	44
Total	100	100

Result in table 1 reveals that 56 (56.0%) of the respondents were males while 44 (44.0%) were females. This showed that there were more male respondents than female respondents in the study. **Table 2: Distribution of the Respondents Based on Academic Level**

Academic Level	Frequency	Percentage
100	4	4
200	7	7

300	5	5
400	84	84
Total	100	100

Table2 shows that 4(4%) of the respondents were students in 100 level, 7 (7%) were students in 200 level, 5 (5%) were students in 300 level while 84 (84%) of the respondents were in 400 level respectively. This shows that most of the respondents covered by the study were undergraduate students in the fourth academic year of study, and they were more available during the course of carrying out the study.

Analysis of Research Questions

Research Question 1: What is the level of awareness of undergraduates towards utilization of emerging technologies for learning in the University of Ilorin?

Table 3: Level of Awareness of Undergraduates Towards utilization of Emerging Technologies for Learning in the University of Ilorin

S/No	Items	Mean
1.	I have heard a lot of information regarding emerging technologies among undergraduates	3.40
2.	I am very conversant with utilization of emerging technologies towards learning	3.18
3.	I have encountered emerging technologies during my learning activities	2.90
4.	Emerging technologies are common among undergraduates	3.27
5.	Emerging technologies make learning simpler	3.48
6.	Most emerging technologies have been useful over the years	3.27
7.	Emerging technologies are generally accepted by undergraduates	3.11
8.	I often see people make use of emerging technologies for learning	2.82
9.	Emerging technologies are well accepted by all categories of learners	3.14
10.	Emerging technologies caters for all class of learners	3.36

Table 3 Presents the mean on the level of awareness of undergraduates towards utilization of emerging technologies for learning in the University of Ilorin because all of the items covered by the study had mean scores that were higher than the benchmark of 2.50 and the grand mean is 2.72. Therefore, it can be deduced that undergraduate students of university of Ilorin are aware of emerging technology for learning.

Research Question 2: What is the level of utilization of emerging technologies among undergraduates in the University of Ilorin?

Table 4: Level of Utilization of Emerging Technologies among Undergraduates in the University of Ilorin.

S/No	Items	Mean
1.	Emerging technologies allow me to express myself better while	3.27 learning
2.	Emerging technologies make learning convenient for me	3.13
3.	I prefer emerging technologies to traditional technologies for	3.24 learning
4.	Emerging technologies do not discriminate among genders for	3.31 learning
5.	Emerging technologies are stress free compared to traditional	3.36 technologies
6.	Emerging technologies make me learn faster	3.43
7.	Emerging technology is flexible to use for any type of learning	3.47
8.	I make use of emerging technologies anywhere anytime	2.77
9.	Emerging technologies are learners friendly	3.29
10.	Emerging technologies cater for every categories of learning	3.34
	Grand Mean	3.26

Table 4 Presents the mean on the level of utilization of emerging technologies among undergraduates in the University of Ilorin because all of the items covered by the study had mean scores that were higher than the benchmark of 2.50 and the grand mean is 3.26. Therefore, undergraduate students of university of Ilorin use emerging technology for learning.

Research Question 3: What is the perception of Undergraduates towards utilization of emerging technologies for learning in University of Ilorin?

Table 5: Perception of Undergraduates Towards utilization of Emerging Technologies for Learning in University of Ilorin.

S/No	Attitude	Mean
1.	Emerging technologies have multiple usefulness for learners	3.33
2.	Emerging technologies Increase student-lecturer interaction	3.10
3.	Emerging technologies Increase student- student interaction	3.22
4.	Emerging technologies Improve student satisfaction with course	3.29
5.	Emerging technologies are easy to integrate to learning	3.18
6.	Emerging technologies are suitable for undergraduates learning	3.24
7.	Emerging technologies affect undergraduate learning positively	3.35
8.	Emerging technologies bring about collaborative learning	2.66
9.	Emerging technologies are suitable for undergraduates learning	3.26
10.	Emerging technologies are difficult to use for individualised learning	1.42
Grand Mean		3.01

Table 5 Presents the mean on the perception of Undergraduates towards utilization of emerging technologies for learning in University of Ilorin because many of the items covered by the study had mean scores that were higher than the benchmark of 2.50 and the grand mean is 3.19. Therefore, undergraduate students of university of Ilorin have a positive perception towards utilization of emerging technologies for learning.

Summary of Findings

The summary of the findings from the research questions and research hypothesis are presented as follows:

1. The study revealed that undergraduate students of university of Ilorin are aware of emerging technology for learning.
2. The study indicated that undergraduate students of university of Ilorin use emerging technology for learning.
3. The study revealed that undergraduate students of university of Ilorin have a positive perception towards utilization of emerging technologies for learning

Conclusion

From the findings, it could be deduced that undergraduates are aware of using emerging technology for learning in University of Ilorin and also, they have a positive perception towards utilization of

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emerging technologies for learning. Using emerging technologies for learning among undergraduate will actually go a long way in influencing positively the students' performance in their studies.

Furthermore, from the findings, we could say that there is provision of more comprehensive information when using emerging technology for learning than face-to-face methods of learning. And there tends to be room for more interaction between the instructor and students. The respondents also were more convenient using ETs for learning. Moreover, the students' views on emerging technology for learning help them to master the course (material) and to get more information. Emerging technology seems to give shy students chance to participate and share their opinions with their classmates on forum or other different way

Recommendations

Based on the findings and conclusions of this study, the following recommendations were made:

1. Government should formulate policies for awareness programmes on emerging technologies for undergraduates and incorporate it in the university education curriculum;
2. Enabling environment should be provided to encourage students more to utilize emerging technology to derive the benefits hands-on learning has to offer; and
3. Undergraduate students should be more favorably disposed to utilizing various emerging technologies to facilitate proper learning skills and enhance their cognitive development

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