

DIGITAL SWITCH-OVER AND INSTRUCTIONAL DELIVERY OF ACADEMIC PROGRAMMES IN TERTIARY INSTITUTIONS IN DELTA STATE, NIGERIA

¹Amahi, Fidelis U. (Ph.D.) MABEN / 033

²Otomiewo Esther Elo (Ph.D.) MABEN/0926

³Jacob, Mary Oiza MABEN/0622

¹University of Delta, Agbor

fidelis.amahi@unidel.edu.ng

² Ignatius Ajuru University, Port-Harcourt

estherotomiewo@gmail.com

³Kogi State Polytechnic. Lokoja

divinemiracle83@gmail.com

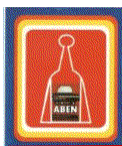
Abstract

The study examined Digital Switch-Over and Instructional Delivery of academic programmes in tertiary institutions in Delta State, Nigeria. This paper was anchored on Roger's Diffusion of Innovation (DOI) Theory, developed by E.M. Rogers (1962), in Beever (2016), diffusion of innovation (DOI). The main objective of this study was to ascertain how digital switch-over can enhance instructional delivery of academic programmes in tertiary institutions in Delta State, Nigeria. The specific objective of the study examined the extent to which Microsoft teams enhanced content delivery and the supervision of examinations, teaching practice and projects. Two research questions and one null hypothesis were formulated and generated respectively. The study adopted descriptive survey research design. The sample size for the study comprised 20 business educators in tertiary institutions in Delta State, Nigeria. Structured questionnaire reliability index was established at 0.75 using Pearson Product Moment Correlation Coefficient for data collection. Data analysis was done with descriptive statistics using (mean and standard deviation) and inferential statistics of t-test. Findings from the study revealed High Extent to which Microsoft Teams enhanced content delivery of academic programmes but Low Extent in the supervision of Teaching Practice, Examinations and Projects in tertiary institutions in Delta State Nigeria. Conclusion was drawn and recommendation was made among others that school management should collaborate with government to regularly organize training for staff on the packages and application of Microsoft teams in the teaching and learning process.

Keywords: Academic programmes, Digital Switch-Over, Instructional Delivery

Introduction

Nigeria is uniquely positioned to reap the benefits of the digital economy. Nigeria is home to 47 per cent of West Africa's people, and half of the 200 million people who live there are younger than 30. Nigeria has the largest mobile market in Sub-Saharan Africa, which is supported by a strong mobile broadband infrastructure and better international connectivity. However, there is not much fixed broadband infrastructure or connectivity in rural areas, so a lot of, the poorest people in the country do not have access to the Internet. Nigerian people and businesses are still not part of the digital



ecosystem because they do not have enough access to broadband and don't have the right devices (like computers and mobile phones) to fully use the Internet. It also talks about the good progress made in areas like digital infrastructure, finance, skills, entrepreneurship, and more. Nigeria is home to a number of digital companies that are growing quickly and that shows the digital potential of the country. To meet the ambitious goal of creating 100 million jobs in Nigeria by 2030 and to make the digital economy more accessible, the country needs to invest more in infrastructure, create a regulatory environment that helps the digital economy grow, pursue radical reforms that lead to better skills and a more competitive digital job market, and support public-private partnerships to keep demand for digital services high. Groupe World Bank (2019).

Oyedele (2019) Saw that, this switch-over from analogue to digital broadcasting has been concluded to be necessary due to the intense quality of digital technology in turning messages, sound, text, audio and images to digital computer language, with the better application of computer telecommunication technologies, audiovisuals, and improved interactive platforms as other promises of the digital revolution. Okonji (2017), posits that, since 2006 when the International Telecommunication Union (ITU), a United Nation agency, issued the Geneva 2006 agreement, signaling the development of all digital terrestrial television services, African countries, including Nigeria, have been battling to complete the migration process from analogue television broadcasting to digital television broadcasting. Ihechu (2020), in Ibulubo (2008) observed that, the slow approach to issues and projects in Nigeria like reinvigorating the power sector, infrastructural development, offering political solutions, technical and financial Challenges, manpower, power supply, knowledge gap and cost of new media technologies and absence of clear-cut policies as challenges facing the digitization process in Nigeria.

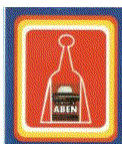
The planned transition to the new platform and the eventual switch off of analogue signals is called digital switchover (DSO). Starks (2017). The biggest impact of this transition is improved television service through better picture quality, improved coverage, and a wider choice of channels. The spectrum that the switchover liberates presents a significant opportunity for extending internet access (through mobile broadband). If managed effectively, the DSO could boost economic and social development and support the delivery of programs enabling increased access to the delivery of digital services, e.g., remote educational content (World Bank, 2021). Vanguard (2021), describes the '[digital switchover](#)' as the name given to the process of changing from analogue to digital TV broadcasting. With the advancement of digital technology, digital switch-over enhances electronic teaching that is based on the use of electronic tools for improving access to teaching of academic programme, the digital instructional delivery of academic programmes facilitates the adoption of new ways of understanding which involves the use of hardware and software of the computer or electronic device such as the Microsoft Team, with all operating system such as, IOS, Window, Android and Smart TV powered by HDMI.

This paper anchored on Roger's Diffusion of Innovation (DOI) Theory, developed by E.M. Rogers in 1962, people as part of a social system adopt new ideas, techniques and technology. Adoption means that a person does something differently than what they had previously (i.e., acquire and perform a new digital technology.) Every diffusion has four variables or elements which are innovation, communication, time and social system present in every diffusion research study. Beever (2016).

This theory is succinctly adopted for this study as it relates to the predator variable of this study (digital Switch-over).

Instructional Delivery

Ezenwafor & Nwachukwu (2020), opined that, instructional delivery is the interaction among the student, the teacher, the content, the knowledge, skills and dispositions students need for effective teaching/learning outcomes in order to qualify to work together with others in a diverse society and



fast changing world. It is a process in which teachers apply repertoire of instructional strategies to communicate and interact with the learners around academic content, and to support students engagement for better learning outcome, (Blaise, Onwuagboke, Singh, & Fook, 2015).

Lecturers must be ready to learn and adopt digital switch-over techniques of pedagogy to enhance instructional delivery of the content, and the supervision of examinations, teaching practice and project. The use of suitable materials and tools in the teaching and learning will undeniably be helpful in making the process more meaningful. Laleye (2015).

Academic Programmes

Academic programmes are degree granting (undergraduate, graduate or certificate) programmes that have been assigned a unique classification of instructional programmes (CIP) code. They consist of the core, required and elective courses that lead to a degree or certificate. It is a combination of courses and related activities organized for the achievement of specific learning outcomes as defined by the university. It is worthy to state that academic programmes brings about academic development through dedicated faculties which helps to build competencies which help students personally, socially and in career and makes them grow relationship in life For this to Angelo & Quillen (2018) highlighted that the essential ingredients for a successful academic programme is the goal of the academic programme which “must be to provide students with high quality educational programme to meet or exceed workforce requirement; minimize time to valued credentials and maximise academic synergy and efficiency”

Academic programmes are educational programmes which involve acquisition of skills, knowledge and competencies which makes the recipient, beneficiary proficient.

Dimension of Digital Switch-Over.

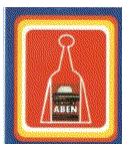
Microsoft Team: Microsoft Teams is a collaborative workspace within Microsoft 365/Office 365 which acts as a central hub for workplace conversations, collaborative teamwork, video chats and document sharing, all designed to aid workers' productivity in a unified suite of tools. Teams is available as a desktop app, via web browser, and as a mobile app. It's supported across all major operating systems, such as Windows, macOS, iOS and Android. Finnegan (2020), describes Microsoft team as a collaboration of platform that unifies chat, voice, video and file sharing as well as allows teachers to distribute, provide feedback, and grade student assignments turned-in via tab. It's designed to be used by local, remote and distributed work groups as seen by Sherweb (2021). Microsoft Teams according to Wikipedia (2021), is a proprietary business communication platform developed by [Microsoft](#), as part of the [Microsoft 365](#) family of products. Teams primarily offers services in workspace like chat and video conferencing, file storage and application integration. Teams and other software such as [Zoom](#), [Google Meet](#), has gained much interest as many meetings have moved to a virtual environment.

Westland (2021), opined that, [Microsoft Teams app](#) is a chat-based collaborative platform for online meetings and other business communication needs. It is used to keep teams connected and organized.

Dimensions of Instructional Delivery of academic Programmes

Content of the Subject Matter: Subject matter is an essential component of teacher knowledge; it is neither a new nor a controversial assertion. Teaching entails helping others learn, then understanding what is to be taught is a central requirement of teaching. The myriad tasks of teaching, such as selecting worthwhile learning activities, giving helpful explanations, asking productive questions, and evaluating students' learning, all depend on the teacher's understanding of what it is that students are to learn. As Buchmann (1984) points out in Ball & McDiarmid (2020).

Heggart (2016) is of the view that, the expert teachers can make use of their subject knowledge to organise and use content knowledge more effectively for their students to



understand. Education World (2020), assert that, teacher development programmes tend to focus on enhancing pedagogy and classroom teaching skills and developing trendy 21st-century skills such as creativity and collaboration.

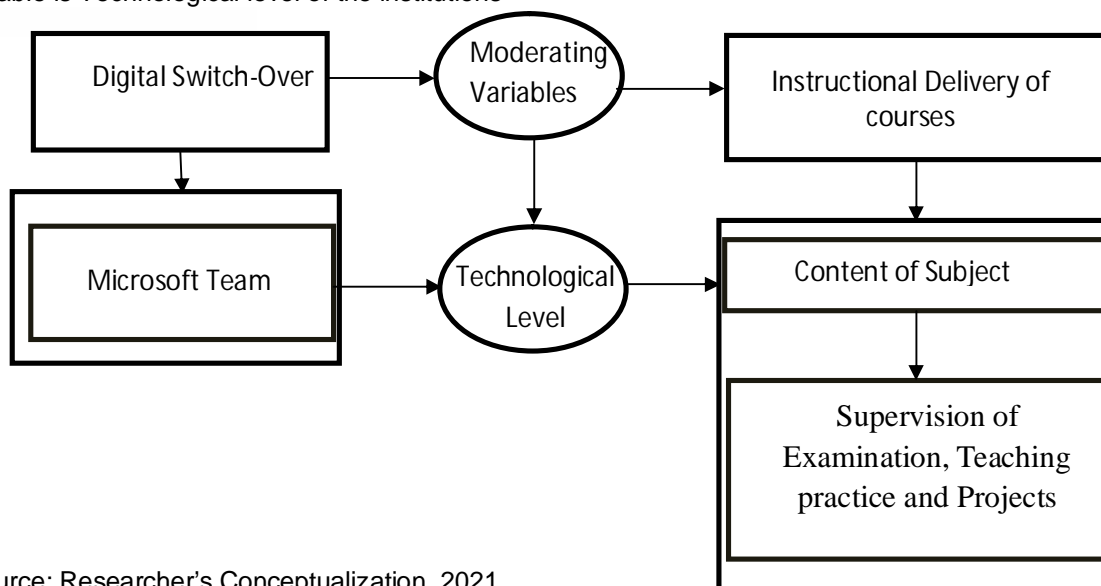
Supervision of Projects, Teaching Practice and Examinations.

Supervision of Projects: Helping a student to become an independent researcher is a significant achievement and can enhance your own teaching and research. A supervisor acts as a guide, mentor, source of information and facilitator to the student as they progress through a research project. As a supervisor, you will help create an intellectually challenging and fulfilling learning experience for your students,

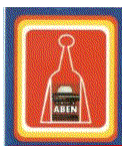
Supervision of Practical classes and Teaching Practice: Practical class and Teaching Practice are ways of integrating classroom education with practical experience in enabling students of other disciplines and education students (student teachers) to develop their professional knowledge and professional skills. Mutende (2017), viewed that, the main purpose of supervision and assessment during teaching practice is to establish whether classroom instructional practices have achieved the lesson objectives or not, points out that the role of the supervisor is to observe and assess lessons, advise, direct, guide, counsel and provide the feedback aimed at helping the student teacher identify their areas of growth and improvements to be made. This is synonymous to practical class Glickman, et al in Apolot, et al (2018), proposed that supervisors should help supervisees, realize their potentials and usefulness.

Supervision of Examinations: Supervision of examinations is a position of trust. You will possess the qualities of integrity and vigilance to conduct the examinations in exact accordance with the rules and regulations of the institution, the main purpose of supervisors and assistants is to ensure that all examinations are carried out according to the rules set out by the institution.

The conceptual framework depicts predictor variables (digital Switch-over) proxied as Microsoft teams, and the criterion variable (instructional delivery of courses) is also proxied by content delivery, supervision of examination's teaching practice and projects. While the moderating variable is Technological level of the institutions



Source: Researcher's Conceptualization, 2021



Owolabi and Owolabi (2015), observed that, for effective instructional delivery to be catalysed in Nigerian tertiary institutions, e-learning must be well utilized. To them, E-learning is education that uses computerised communication systems as an environment for communication, the exchange of information and interaction between students and instructors.

National Policy on Education NPE (2014), explains tertiary education to mean “education given after secondary education in universities, polytechnics, monotechnics including those institutions offering correspondence courses”. These institutions are geared towards enhancing national development by training high level manpower with proper values and developing both physical and intellectual skills and capacities. All of these make recipients to be self-reliant, appreciate their environments, and become useful citizens for the survival of the recipients and society. The above goals are achieved through academic activities of teaching, research and developments and dedicated services to the community. All management and social sciences programmes like accounting, business administration, economics etc. education courses like business education science and arts education; engineering and sciences, medical sciences etc are all embraced in the above definition.

Academic programmes in tertiary institutions give the students the basic skills, develop the skills that are needed for different levels of economic development, and of course gives the individual the skills to live, learn and work as a productive citizen in a global society.

The main objective of this study is to ascertain how the digital switch-over can improve instructional delivery of programmes in tertiary institutions in Delta State, Nigeria.

The specific objective of the study includes the following:

1. Ascertain the extent to which Microsoft Teams can enhance instructional delivery of the content of the subject matter in digital switch-over and instructional delivery of academic program in tertiary institutions in Delta State, Nigeria.

Statement of the Problem

The clarion call for digital switch-over and instructional delivery of academic programmes in this 21st century is an evolving aptitude that empowers the educator to interpret information, discover meaning, design content, construct knowledge, and communicate ideas in a digitally connected world. The digital tool is the component of the Internet, allowing digital materials to be created, stored, interacted and accessed over the internet, (Bates, 2005). The digital switch-over encompasses the use of computer software such as the Microsoft Teams. Lecturers in tertiary institutions in Delta state are faced with problems using digital tool in instructional delivery of courses.

It is against this background that the present study is carried out to determine how the independent variables (digital Switch-over) with the following dimension of Microsoft teams will enhance content delivery and supervision of projects, teaching practice and exams.

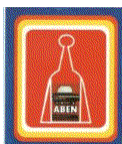
This study is apt and novel and it will close the gap that exist in literature as well as being of great importance to all stakeholders in academics.

Research Questions

1. to what extent does Microsoft Teams enhance content delivery of academic programmes in tertiary institutions in Delta State, Nigeria.
1. to what extent does Microsoft Teams enhance the supervision of examination, teaching practice and projects in the delivery of academic program in tertiary institutions in Delta State, Nigeria.

Hypotheses

The following null hypothesis was tested at 0.05 level of significance



Ho₁: There is no significant deference in the mean responses between male and female academics on the influence of Microsoft Teams in the delivery of academic program in tertiary institutions in Delta State, Nigeria.

Method

The study adopted descriptive survey research. Nwankwo and Emunemu (2015), stated that, descriptive survey research design in most cases describes samples in terms of simple proportions and percentage of respondent to different questions. The population of the study consisted of 20 academic staff from the tertiary institutions (one university, one college of education, one polytechnic and one Federal College situated in Delta State, Nigeria). A structured questionnaire was used for data collection, the questionnaire was divided into two main parts A and B. Section A obtained the background information about the respondents. Section B was divided into two sections (I-II) in line with the specific objectives of the study, digital switch-over and instructional delivery of academic programmes in the tertiary institutions in Delta State. Content delivery (1-8) Supervision of Examination, project and Teaching Practice (1-7). A four-point rating scale of Very High Extent (VHE), High Extent (HE), Low Extent (LE) and Very Low Extent (VLE), The instrument was face validated by three experts. A test-retest reliability method was used to establish the reliability of the instrument. 30 copies of the questionnaire were distributed and 20 copies were retrieved from the academic staff from the schools not chosen for the study. The data collected was analyzed using Pearson Product Moment Correlation Co-efficient in order to determine the reliability of the instrument and it was established at 0.75. The questionnaire was administered to respondents in their school locations and retrieved through personal contacts and collated for data analysis. The research questions were answered using mean (X) and standard deviation (SD). The value of 2.50 was considered as the mean criterion. Therefore, a calculated mean equal or greater than 2.50 was regarded as high extent, while the calculated mean below 2.50 was regarded as low extent.

The hypotheses were tested using t-test statistical tool at 0.05 level of significance. Where calculated t-value exceeds the table or critical value, the null hypotheses was accepted.

Data Presentation and Analysis: This section deals with presentation and analysis of data discussion of findings. The analysis is done on the following tables as shown below.

Table 1: Presentation of respondents' demographics characteristics.

Variables	Option	Frequency	Percentage
Sex	Male	12	60%
	Female	8	40%
Categories of academic staff	Graduate Assistants-Lecturers 1	7	35%
	Senior lecturers -Professors	13	65%

Table 1 shows the data analysis of respondent's demographic characteristics. From the analysis, it was revealed that, out of the total of 20 respondents, 12 (60%) were males while 8 (40%) were females.

Research Question 1: To what extent does Microsoft Teams enhance content delivery of academic programme in tertiary institutions in Delta State, Nigeria.

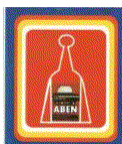


Table 2: Mean Analysis of the extent Microsoft Teams can enhance instructional delivery of content of the subject matter in digital switch-over and instructional delivery of academic programmes N = 20

S/N	Digital Switch-over and Instructional delivery of academic Programmes	VHE (4)	HE (3)	VLE (2)	LE (1)	M	Decision	
	Microsoft Teams in enhancing instructional delivery of subject content delivery.							
1	Ability to connect to Microsoft Team using all operating system, like iOS, Android, and Windows	5 (20)	9 (27)	4 (8)	2 (2)	2.85	HE	
2	Ability to share live stream	4 (16)	8 (24)	7(14)	1 (1)	2.75	HE	
3	Sending software voice messages to the learners	3 (12)	6 (18)	8 (12)	3 (3)	2.25	LE	
4	Setting up specific team for classes	5 (20)	7 (21)	5 (10)	8 (8)	2.95	HE	
5	Ability to format text and to use Gif	4 (16)	7 (21)	6 (12)	3 (3)	2.6	HE	
6	Ability to share files e.g lecture note	7 (28)	5 (15)	4 (8)	4 (4)	2.75	HE	
7	Ability to share your screen	3 (12)	5 (15)	5 (10)	7 (7)	2.2	LE	
8	Interacting with learners with chat allowing questions and answers	6 (24)	6 (18)	6 (12)	2 (2)	2.8	HE	
	Composite Mean	2.64						HE

Table 2 revealed the high extent of Microsoft Teams in enhancing content delivery of academic programmes in tertiary institutions in Delta State, Nigeria. From the mean analysis in the table, it was found that the composite (grand) mean value (2.64) was greater than the criterion mean (mean bench mark) value of 2.50. Thus, it indicated a high extent. This means that the extent of Microsoft team in enhancing content delivery of academic programmes in tertiary institutions in Delta State is high.

Research Question 2: To what extent does Microsoft Team enhance the supervision of examination, practical class, Teaching Practice and Projects in the delivery of academic programmes in tertiary institutions in Delta State, Nigeria.

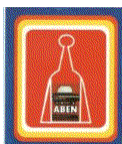


Table 3: Mean Analysis of extent of how Microsoft Team can improve the supervision of exams, Practical class, Teaching Practice and Projects in the digital switch-over and instructional delivery of academic programmes in tertiary institutions in Delta State, Nigeria.

S/N	Microsoft Team and the supervision of exams, Teaching Practice and Projects in the digital switch-over	VHE (4)	HE (3)	VLE (2)	LE (1)	MV	Decision
	Microsoft Team improve the supervision of exams, practical class, Teaching Practice and Projects in the digital switch-over and instructional delivery of academic programmes in tertiary institutions in Delta State						
1	Ability to create meetings for lectures	2 (8)	6 (18)	4 (8)	8 (8)	2.1	LE
2	Adding learners into the meeting	5 (20)	6 (18)	4 (8)	5 (5)	2.55	HE
3	Sending invitation to learners using a specific URL	4 (16)	6 (18)	3 (6)	7 (7)	2.35	LE
4	Sending instant messages	6 (24)	8 (24)	3 (6)	3 (3)	2.85	HE
5	Ability to connect to learners	4 (16)	6 (24)	5 (10)	5 (5)	2.25	LE
6	Ability to construct and share document with the students	6 (24)	4 (12)	6 (2)	3 (3)	2.05	LE
7	Providing messages with images which are more effective for learner's comprehension	5 (20)	6 (18)	5 (10)	4 (8)	2.8	HE
	Composite Mean	2.42					LE

The data analysis in Table 3 shows that the composite mean value (2.42) was lesser than the criterion mean value (2.50). It indicated a low extent. This means that, the extent to which Microsoft Team enhances the supervision of examination, practical class, Teaching Practice and Projects in the delivery of academic programmes in tertiary institutions in Delta State is low.

Hypotheses: The following null hypotheses was tested at 0.05 level of significance

Ho₁: There is no significant difference in the mean responses between male and female academics on the influence of Microsoft Teams in the delivery of academic programmes in tertiary institutions in Delta State, Nigeria.

Table 4: t-test analysis of difference in the mean responses between male and female academics in the digital switch-over and instructional delivery of academic programmes in tertiary institutions in Delta State, Nigeria

Gender	N	Mean	SD	t-Cal	t-crit	Df	Sig	Decision
Male	12	2.68	2.81	0.15	2.228	10	0.05	Accepted
Female	8	2.51	2.08					

Table 4 above shows the t-test analysis of the significant difference between male and female business educators' mean response on digital switch-over and instructional delivery of academic programmes in tertiary institutions in Delta State. From the t-test analysis, it was revealed that, the t-calculated value (0.15) was less than the t-critical value (2.223 at 0.05 significant level under degree



of freedom 10. Thus, the null hypothesis which stated that there is no significant difference in the mean response between male and female business educators in the digital switch-over and instructional delivery of academic programmes in tertiary institutions in Delta State, Nigeria was accepted. It means that there is actually no significant difference in the mean responses between male and female business educators on the influence of Microsoft Teams in the delivery of academic programmes in tertiary institutions in Delta State, Nigeria.

Discussion of Findings:

This study was designed to examine Digital Switch-Over and Instructional Delivery of academic programmes in tertiary institutions Delta State, Nigeria. 20 academics consisting of 12 (60%) male and 8 (40%) females.

Findings from the study in Table 2 revealed that to a high extent, Microsoft Teams enhances content delivery of academic programmes in tertiary institutions in Delta State, Nigeria. It was found that Microsoft team have the ability to: connect to operating system, like iOS, Android, and windows; share live stream; send software voice messages to the learners; share files; and interact with learners with chat allowing questions and answers. This indicates an advancement in the technology in the teaching field. This findings supports the assertion of Westland (2021) who opined that, [Microsoft Teams app](#) is a chat-based collaborative platform for online meetings and other business communication.

Findings of the study from Table 3 revealed that extent to which Microsoft Team enhanced the supervision of examinations, Practical class, Teaching Practice and Projects in the delivery of academic programmes in tertiary institutions in Delta State is low. This was indicated with a composite mean value of 2.42. This results somehow agreed with the assertion of the World Bank (2021) which reported that the biggest impact of this digital switch-over is improved television service through better picture quality, improved national coverage, and a wider choice of channels. The spectrum according to it is that, the switchover liberates presently, a significant opportunity for extending internet access (through mobile broadband) if managed effectively. Owolabi & Owolabi (2015) stating that, for effective instructional delivery to be catalysed in Nigerian tertiary institutions, there should a computerised communication systems as an exchange of information and interaction between students and instructors.

Conclusion

E- learning is the current stage and dimension of technological advancement in teaching and learning process in the institutions of higher learning. Hence, if any institution is to grow speedily and develop technological-wise and as well meet up with the current advancement in technology, it must embrace the digital swift-over using the Microsoft teams.

From findings of the study, it was seen and concluded that the Microsoft team enhanced content delivery to a high extent and of exams, Practical class, TP and projects supervision were low extent. However, the major setback was lack of technological level in providing internet connectivity and access to the facilities among the academics. To overcome this dilemma, all relevant stakeholders, government and management of higher institutions provide training for staff.

Recommendations

Based on the findings of the study and conclusions drawn above, the following recommendations were made.

1. School Management should collaborate with government to regularly organize training for staff on the packages and application of micro teams in the teaching and learning.
2. Enforcement of digital switch-over should be implemented in all the higher institutions to update the lecturers' skills and knowledge in Microsoft team and its application in the process of teaching and learning process.



References

- Apolot, H. M., Otaala J., Kamanyire, J., & Komakech R.A., (2018). School Practice Supervision and Performance of Student Teachers in Higher Institutions of Learning in Uganda: Empirical Evidence from Kyambogo University and Ndejje University JOURNAL OF EDUCATION & ENTREPRENEURSHIP Formerly Journal of Educational Policy and Entrepreneurial Research ISSN: 2408-770X
- Ball, D. L., & McDiarmid G. W., (2020) **The Subject Matter Preparation of Teachers**. Retrieved on 22nd April from <https://edwp.educ.msu.edu/research/wp-content/uploads/sites/10/2020/11/IP894.pdf>
- Bates, A. W., (2005). **Technology, e-learning and Distance Education**. Retrieved from <https://www.routledge.com>
- Beever, G., (2016). Diffusion of Innovation Theory: <https://sphweb.bumc.bu.edu>
- Blaise, B., Onwuagboke, C., Singh, K. R., & Fook, F., S., (2015). Need for ICT Integration for Effective Instructional Delivery in Nigerian Colleges of Education Journal of Education and Practice ISSN 2222-288X (Online) www.iiste.org
- Ezenwafor, J. I., & Nwachukwu, S.H., (2020). Extent of Utilization of E-Learning Resources for Instructional Delivery by Office Technology and Management Lecturers in Polytechnics in South-East Nigeria, *International journal of teacher education*. 5(1) www.premierpublisher.org.
- Finnegan, M., (2020). Microsoft Teams: How to use it, and how it stacks up to Slack and Zoom, <https://www.computerworld.com>
- Heggart, K., (2016). How important is Subject Matter Knowledge for a Teacher?**
<https://olc.worldbank.org/content/development-digital-divide-and-digital-switchover-dso-why-dso-africa-really-matters>
- Mutende, R. A., (2017). *Influence of Supervision Practices on the Teaching Practice Performance of Bachelor of Education Science Students: A Case of a Public University in Western Kenya International Journal of Humanities Social Sciences and Education (IJHSSE) 4 (8) 1-57 ISSN 2349-0373 (Print) & ISSN 2349-0381 (Online) <http://dx.doi.org/10.20431/2349-0381.0408007>www.arcjournals.org*
- Nwankwo, I. J., & Emunemu, B. O. (2015). Handbook on Research. In Education and the Social sciences: A Resource for Theses, Dissertations and Projects. Published by Giraffe Books. ISBN 978-978-5335-0-3
- Obiete, I. A., Nwazor, J. C., & Vin-Mbah, I. F. (2015). Strategies for Teaching Business Education Students in Nigerian Tertiary Institutions for Cooperate Governance. Journal of Education and Practice ISSN 2222-1735 ISSN 2222-288X (Online) 6, 18, 2015 www.iiste.org
- Okonji, E. (2017). Addressing Africa's Challenges in Digital Switch Over <https://www.thisdaylive.com/index.php/2017/11/16/addressing-africas-challenges-in-digital-switch-over/>
- Ordu, P., (2017). Introduction to vocational business education. Published in Nigeria by Osia digital Press, Port-Harcourt, Rivers State, Nigeria.**
- Otamiri, S. A., (2014). Business and Technical Education Delivery in the 21st Century: The Challenge of Quality and Functional Skills. Journal of Economics and Sustainable Development ISSN 2222-1700 ISSN 2222-2855 (Online) 5, 11, www.iiste.org
- Owolabi, B. O., & Owolabi, B. G., (2015). Electronic Earning (E-Learning) As A Catalyst for Effective Instructional Delivery in Nigerian Tertiary Institutions. International Journal of Scientific & Engineering Research, 6(11), ISSN 2229-5518
- Oyedele, O. J. (2019). Ibadan Television Stations' Readiness for Digital Transition Journal of Language, Technology & Entrepreneurship in Africa 10 (1).
- Starks, M. (2017). *Steps to Digital Switchover: Commonwealth Digital Broadcasting Caribbean Forum* <https://www.broadcastingcommission.org/resources/steps-to-digital-switchover>.
- Sulaiman, U.O. (2017). Meaning of business education. <https://olabisiblog.wordpress.com>
- Vanguard (2021). Nigeria: Time to Bring Closure to the Digital Switchover Process <https://allafrica.com/stories/202101200150.html>