



An Assessment of the ICT Component of Mass Communication Training in Nigeria's Polytechnics

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Abstract: Technology has shaped the training of mass communication students in Nigeria's tertiary institutions both positively and negatively over the years. Impact on trainees, on the positive side are the ease of practice after graduation, efficient use of resources as employees and increasing numbers of self-employed mass communication graduates. Shortcomings from inadequate application of contemporary technology in training mass communication graduates could be seen in increased incidences of fake news and poor on-the-job performance which have been attributed to improper or inadequate application of Information Communication Technology (ICT) as mass communication training component. This study investigates the extent to which mass communication departments of five notable polytechnics are imparting knowledge to their students via. Information and Communication Technologies (ICTs). Findings reveal that all the institutions studied operate below the benchmarks for proper training set by the National Board for Technical Education (NBTE), the country's supervisory body for ICT-driven institutions.

INTRODUCTION

Until the 1980s, mass communication training in Nigeria broadly dwelled on newspapers, magazines and books (print media), radio, television and films (broadcast media) and advertising and public relations with no emphasis on communication technology. At the turn of the 20th century, rapid transformation of mass communication training began to emerge. Many universities and polytechnics started to introduce special topics which broadly introduced students to new forms of

“mass communication technology”: Cybernetics, New World Information and Communication Order, (NWICO), Introduction to Satellite Communication, Computer Appreciation, The Future of Mass Communication, etc. In the past 15 years, course contents in many mass communication training institutions have been shaped by Information Communication Technologies [ICTs]^[1, 2]. In Print Media Training for example, Computer Graphics for Mass Media has replaced Lithography while Layout and Design has given way to Digital Publishing. Media Convergence is preferred to Newspaper and Magazine

Production. Some training institutions introduced entirely new ranges of courses such as: Web design, Online Editing, Computer Graphics, The New Media, e-Publishing, Cyberprotest, Digital Imaging, Citizen Journalism, Web Designs and Online Marketing, in new efforts to integrate mass communication training to the profound influence of the computer.

Communication theorist, Marshall McLuhan had predicted the foregoing paradigm shift in his famous “global village” declaration, stressing that technology would determine future communication^[3]. He had foreseen that technology would literally merge communities and persons across the world into a single community. Today, McLuhan’s prediction has become the reality. People across continental divides (even people residing in space) now can interact as if they are physically together. All mass communication media (television, radio, newspaper, magazine, books, films) have been integrated into what has been aptly described as “media convergence”, through the deployment of ICT, using platforms such as digital computers, the internet, mobile phones, mobile application and devices such as iPods, mp3 and so on.)

The unprecedented transformation in the technology of information and communication (information generation, processing, storage and dissemination) in the 21st century opened-up new media platforms in terms of interconnectedness, interactivity, multiplicity and accessibility^[4]. The implementation of ICT system led to organizational and individual changes and therefore user-adoption and use of ICT systems have brought tremendous opportunities and challenges in organizations and institutions^[5-7].

Because ICT is rapidly changing how mass communication is practiced, of necessity, how mass communication education is done should correspondingly change. The ICT age has challenged the traditional concept of Mass Communication as a large organization whose message is sent to a large heterogeneous, scattered audience reached at the same time. Similarly, as electronic commerce on the internet has transformed how advertising agencies present products and services for their clients^[8]. Indeed, modern mass communication has been nuanced by technology.

Mass communication education in Nigeria: The earliest forms of mass communication education and training in Nigeria were through internship offered by the first newspapers in the country, *Iwe Irohin* and *The Anglo African*^[9]. *Iwe Irohin* was started by Rev Henry Townsend as a missionary and general-interest newspaper in 1859 and the *Anglo African* was started in Calabar by Robert Campbell, a commercial printer and missionary.

Numerous other newspapers sprang up later between 1900 and 1930 mainly as nationalist newspapers. All of these newspapers trained their members of staff in various aspects of journalism such as reporting, editing, printing and circulation, as there was no formal journalism education training institution at the time. The *Daily Times* of Nigeria (established in 1925) and the *Nigerian Tribune* (established in 1949) served as the training ground for most of Nigerian journalists until the 1960s^[10]. The *Daily Times* eventually transformed its training to a formal training institution known as the *Times Journalism Institute (JTI)*.

In other sub-fields of mass communication training (such as advertising, publishing relations and broadcasting), the training format was similar. The pioneer Nigerian advertising agencies such as *Lintas* and *Promoserve*, trained their staffers and the Ministry of Information and old multi-national organizations such as *UACN* offered training in public relations. The *National Broadcasting Corporation (NBC)* also pioneered training of broadcast personnel. The *NBC* later established the *Radio Nigeria Training School* which still operates till today. The first tertiary institution to offer diploma and degrees in mass communication were the *University of Nigeria, Nsukka* and the *University of Lagos, Lagos* (established in 1961 and 1967, respectively.) The first polytechnics to start mass communication programme were the *Institute of Management Technology, Enugu* and *The Polytechnic, Ibadan* (both in 1978). Mass Communication education curricula in Nigeria are coordinated by the *National Universities Commission (NUC)* for universities and *National Board for Technical Education (NBTE)* for monotechnics and polytechnics.

Background and objectives: Given the dynamic nature of the field of mass communication, knowledge update ought to be rapid as “today’s mass communication practitioner must constantly update his or her knowledge in an ever-changing world of ICT”^[11]. Trainees, upon graduation, are expected to have more than just computer-assisted proficiency^[12, 13]. In addition they are to practice mainstream ICT journalism. The power, prevalence and promotion of information technologies have grown remarkably to an extent that by 2001, social scientists could plausibly assert that information society theory (which deals with the impact of ICTs) has the status of a dominant paradigm^[14]. Ayedun-Aluma further listed the characteristics of Information Society to include “technology” (it is driven by technological breakthroughs); “economic”: (generates huge income and employment); “occupational” (most occupations use ICT); “spatial” (computer communication and telecommunication permit immediate contact across space

and time); “cultural” (life is largely about exchange of messages). He predicted that the implementation of ICT for Development in Nigeria (ICT4D) would be handicapped, among others, by the weak state of the Nigerian economy which would hamper provision of fundamental ICT infrastructure^[14].

Both the National Universities Commission (NUC) and the National Board for Technical Education (NBTE), which supervise mass communication training at university, monotechnic and polytechnic levels in Nigeria have in their current curriculum addressed the foregoing challenge in some ways. For instance, the NBTE has introduced the following general guidelines in mass communication training thus.

The principle of modular system by product was adopted thus making each of the professional modules when completed, to provide the student with technical operational skills which can be used for job creation and employment. The teaching of theory and practical work should as much as possible, be integrated. Practical exercises, especially those in professional courses and studio work should not be taught in isolation from the theory.

New ICT Courses have been mounted. These are: Basic Computer Application for Mass Media I, Basic Computer Application for Mass Media II, Computer Graphics for Mass Media, (at National Diploma [ND] level); Multi-media and Online Journalism I and Multi-media and Online Journalism II (at Higher National Diploma [HND] level).

Training institutions are encouraged to infuse ICT into pre-existing courses where such is expedient. Examples include: Broadcast Production, Newspaper and Magazine Production, Reporting Science and Technology, Advanced Reporting, Film Production Techniques and Advertising Campaign.

“Local content” initiatives from 2-6 units are provided for institutions to develop home-grown courses to cover any additional gaps which may include those related to ICT.

Before an institution can be accredited to train mass communication students, NBTE requires a detailed list of infrastructure which includes the following:

- News writing and editing laboratories
- Public Relations and Advertising lab and Research Resource Centre Radio and Sound Studio
- Television Studio
- Photography Studio
- Equipment in the studios must include digital cameras, sundry microphones, satellite radio receiver, computer editing suites and software and electric generating sets (optional) a total of 30 computer systems with appropriate software^[1]

To what extent are mass communication training institutions in Nigeria adequately equipped to face the challenges necessitated by ICT? In practice, are the foregoing guidelines by the NBTE met by the institutions? To what extent do the polytechnics reflect ICT in teaching and practical modules? Beyond the stipulated NBTE guidelines are the polytechnics, the harbinger of technical education in Nigeria, responding to the ICT challenge in the training of mass communication graduates?

Korpelainen^[7] has established that the implementation of ICT systems in institutions and organizations must go through tested paradigms/models and methodologies to succeed be it in a construction, manufacturing or educational setting. In other words, integrating ICT systems into communication education and training goes beyond introducing ICT courses and equipment. ICT is a dynamic innovation and as it is with most sustainable innovations, there ought to be sound methodological praxis for seamless integration of the old with the new.

Scope of the study: This study was limited to application of ICT software and hardware in teaching and practical work. It covers the appropriateness of curricula but excludes ICT design analysis and media evaluation (which often necessitates quantitative indicators). We excluded the study of teaching methods (didactic approach). The present study is more of explorative assessment, rather than an evaluative investigation.

Research questions: The following research questions guided this study:

- How adequate are ICT equipment currently in use for mass communication training in Nigerian polytechnics?
- To what extent is ICT reflected in the courses being offered and in teaching and practical in the selected polytechnics?
- How should ICT be deployed for efficient and result-oriented mass communication training in the polytechnics?
- What factors militate against the effective use of ICT for mass communication training in Nigerian polytechnics?

Review of literature

Theoretical framework: ICT related studies are associated with a plethora of theories. Seven of these stand out given the subject-matter of this investigation^[7]. These are: Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA), Diffusion of Innovation (DOI), Theory of Planned Behavior (TPB), Unified Theory of Acceptance and Use of Technology (UTAUT), Model of IT Implementation Process (MIIP),

and the Information Systems Success Model (ISSM). Korpelainen^[7] has also made a major review of the application of these theories thus.

Technology Acceptance Model (TAM): Korpelainen^[7] reports that this theory is most cited theory in research publications related to the application of ICT innovation. Davis^[15] presented a theoretical model aiming to predict and explain ICT usage behaviour, that is, what causes potential adopters to accept or reject the use of information technology. Theoretically, TAM is based on the Theory of Reasoned Action (TRA). In TAM, two theoretical constructs, perceived usefulness and perceived ease of use, are the fundamental determinants of system use and predict attitudes toward the use of the system, that is, the user's willingness to use the system. Perceived usefulness refers to "the degree to which a person believes that using a particular system would enhance his or her job performance" and perceived ease of use refers to "the degree to which a person believes that using a particular system would be free of effort"^[15]. In these articles TAM was used in three different ways, namely to compare different adoption models, develop extensions of TAM or replicate the model.

Theory of Reasoned Actions (TRA): The second most cited theory, according to Korpelainen^[7] was the Theory of Reasoned Actions (TRA). The theory originates from social psychology and it is a special case of the Theory of Planned Behaviour (TPB)^[16]. Fishbein and Ajzen developed TRA to define the links between the beliefs, attitudes, norms, intentions and behaviours of individuals. The theory assumes that a person's behaviour is determined by the person's behavioural intention to perform it and the intention itself is determined by the person's attitudes and his or her subjective norms towards the behaviour. The subjective norm refers to "the person's perception that most people who are important to him think he should or should not perform the behaviour in question". Ajzen and Fishbein^[17]'s book is focused on the prediction and understanding of human behaviour to help in solving applied problems and making policy decisions.

Diffusion of Innovations (DOI): The third most cited theory in the study in reference was the Diffusion of Innovations (DOI). Rogers^[18] book "Diffusion of innovations" is still regarded by research scholars one of the most referenced individual work, in the adoption of new ideas^[7]. DOI is a general theory of how new ideas are spread and adopted in a community, and it seeks to explain how communication channels and opinion leaders shape adoption. Rogers^[18] proposed the first process model, a five-stage model of the implementation and adoption of innovation in organizations. Moore and

Benbasat^[19] used DOI to develop "an instrument designed to measure the various perceptions that an individual may have of adopting an Information Technology (IT) innovation". The instrument was intended to be a tool for the study of the initial adoption and subsequent diffusion of IT innovations within organizations.

Theory of Planned Behaviour (TPB): Ajzen^[20] presented the TPB, a theoretical model which focuses on cognitive self-regulation. It is very similar to the TRA model but the difference is that it takes into account an additional construct, namely perceived behavioural control. Perceived behavioural control refers to the perception of control over the performance of a given behaviour. In TRA rational considerations determine the choices and behaviours of individuals and individual intentions determine behaviour. Intentions refer to individuals' plans and motivations to commit a specific act. Intentions also reflect individual attitudes and the extent to which individuals perceive a specific act as desirable or favorable. The theory suggests that human behaviour is governed by personal attitudes, but also by social pressures and a sense of control. Ajzen^[20] reviews that the theory was applied, for example, in studies examining problem drinking or leisure behaviour.

Unified Theory of Acceptance and Use of Technology (UTAUT): The Unified Theory of Acceptance and Use of Technology (UTAUT) was developed by Venkatesh and his colleagues^[21]. The unified model reviews other popular models which explain ICT usage, namely TRA, TAM, the motivational model, TPB, a model combining TAM and TPB, the model of PC utilization, DOI and the social cognitive theory. The purpose of UTAUT is to explain a user's intentions to use ICT and the subsequent user behaviour. The model considers four constructs as direct determinants of user acceptance and usage behaviour, namely performance expectancy, effort expectancy, social influence and facilitating conditions. There are four key moderating variables: gender, age, experience and voluntariness of use.

Model of the IT Implementation Process (MIIP): Kwon and Zmud created the IT Implementation Process model in 1978^[22]. The model is based on the organizational change, innovation, and technological diffusion literature. The purpose of the model is to offer a directing and organizing framework for ICT implementation research. This stage model comprises six stages, namely initiation, organizational adoption, adaptation, acceptance and adoption, routinization and infusion. Thus, the model covers an implementation process from the scanning of organizational needs to a full and effective use of the technology in daily practice. The model also identifies five contextual factors which impact

on processes and products in each implementation stage: the characteristics of the user community, the organization, the technology being adopted, the task, and the organizational environment.

Information Systems Success Model (ISSM): The last most cited theory, according to Korpelainen, is the Information Systems Success Model. DeLone and McLean^[23] reviewed prior research and introduced a comprehensive taxonomy of factors contributing to the success of information systems. The authors examined the literature on IS success and categorized success measures into six major categories: system quality, information quality, use, user satisfaction, individual impact, and organizational impact. These categories are interrelated and interdependent and provide a comprehensive view of IS success. The target of the model is to guide future research efforts.

The foregoing review shows that the most cited theories on the acceptance and adoption of technology were TAM, TRA, DOI, and TPB. Most of the theories focus on the individual level (i.e., TAM, TRA, TPB and UTAUT) but they may also focus on an organizational level (the Model of the IT Implementation Process) or on the level of a social system (e.g., DOI focuses on a group or an organizational level). In the Information Systems Success Model, the focus of the analysis is on critical success factors in ICT implementation in organizations. The Unified Theory of Acceptance and Use of Technology (UTAUT), therefore offers thematic grounding for this study in that it explains a user's intentions to use ICT and the subsequent user behaviour the primary focus of this study.

Sangra and Gonzalez-Sannamed, in their study of the role of information and communication technologies in improving teaching and learning process in primary and secondary schools in Spain found that a school not only has to modernize the technological tools, but also has to change the teaching models: the teacher's role, issues regarding classroom organizational, the teaching and learning processes, and the interaction mechanisms. The purpose of this study is to analyze what is happening at schools regarding the integration and use of Information and Communication Technologies (ICT) and to examine teachers' perceptions about what teaching and learning processes can be improved through the use of ICT. A multiple-case-study research methodology was applied. From a previous exploratory research, four different types of schools were determined. Data show there was a widespread view that ICT in education, favors several teaching and learning processes. In particular, it showed that the contribution of ICT to the improvement of teaching and learning processes is in the schools that had integrated ICT as an innovation factor.

In a more recent study, Kwanya^[24] studied the effectiveness of ICT education in schools of journalism in Kenya. He found that most schools of journalism in Kenya had recognized the need to equip their graduates with adequate ICT skills and are already offering regular ICT programmes not only at the undergraduate but also at the graduate levels. According to the study, the number of online courses and on-the-job training models organized by media houses or journalists' professional associations has been on the increase. However, he discovered that ICT courses were not effectively taught in the journalism schools studied. Major problems in this regard were: lack of enough facilities (computers, Internet access, etc.), inadequate time allocated to ICT courses, inadequate ICT books, and poor contents and haphazard organization of lectures.

In a similar study conducted in Nigeria, it was found, among other things, that inadequate curriculum and insufficient facilities, especially concerning ICTs were handicaps to mass communication education in Nigeria. The study noted that "the need also exists for media educators to be ICT-inclined to be able to teach students the innovations of the 21st century which accommodate both theory and practice together" (p.83). Folayan *et al.*^[10] also found that most students in Nigeria's tertiary institutions have good personal access to ICT tools, from where they learn and spread new slangs. Why these tools not deployed for training partly underpins this investigation.

METHODS AND MATERIALS

The survey and the Focus Group Discussion (FGD) methods were used for this investigation. There are 71 universities and 54 polytechnics in Nigeria offering mass communication at degree, diploma and higher national diploma levels 19 owned by the Federal Government, 19 owned by the State Governments and 16 privately-owned. About one-third of private polytechnics in the country are located in the South-West geo-political zone covering Oyo, Lagos, Ondo, Ogun, Osun, Ekiti, states. Of state-owned mass communication departments in Nigerian polytechnics, 12 are located in the South-West. Five of the polytechnics in the South-West offering Mass Communication programmes were purposively selected for this study, based on their ages and ownership:

- The Federal Polytechnic Ilaro (Mass communication department is three and half years old; student population = 750)
- Yaba College of Technology, Yaba-Lagos (17 years old; student population = 3000)

- The Polytechnic, Ibadan (42 years old; student population = 1,500)
- Lagos State Polytechnic, Ikorodu (25 years old; student population = 2,500)
- Wolex Polytechnic, Lagos. (15 years old)

The Mass Communication Departments in the selected institutions were at least 15 years old at the time of the study, except the Mass Communication Department of The Federal Polytechnic, Ilaro which was less than four years old. While Ilaro and Yaba are “Federal Government-owned”, Ikorodu and Ibadan are “State Government-owned”. Wolex is a privately-owned polytechnic which started in Lagos and now has its permanent site in Iwo (Osun State), also in the South-West. Standardized questionnaire was administered to the selected institutions directly by the researchers. A Focus Group Discussion (FGD) was thereafter conducted with the Heads of Departments of Mass Communication of the institutions under study (based on the research questions) to provide further insight into the responses to the questionnaires administered.

RESULTS

Response rate: Officials of all the five institutions studied returned completed questionnaires and participated in the Focus Group Discussion. The FGD dwelt mainly on the availability and use of infrastructure by both staff and students and course contents as they related to ICT.

Adequacy of ICT equipment: Data generated from this study showed that ICT equipment in the mass communication schools were inadequate. According to NBTE specifications, every polytechnic offering mass communication programme at National Diploma level must have a minimum of 40 computers for every stream (a stream being 60 students in a class). The NBTE further stipulates that 20 of the computer systems should be for

the Multi-media Newsroom while the rest are to be shared by the Radio/TV, Public Relations/Advertising and Photojournalism units^[1]. Although, individual lecturers and instructors have personal access to computers and the internet, majority of the students lack access to computers: Less than ten per cent have personal (laptop) computers.

As Table 1 shows, the institution with the highest number of computer work stations could boast of 25 sets while the least has 4 sets. Even with regards to the institution with 25 sets, this number was grossly inadequate to impart meaningful practical knowledge to its 350 students. It is worse concerning other institutions studied 10 computers sets to 3,000 students; 5 computer sets to 2,500 students. In the only private institution selected for the study, the availability of ICT equipment was abysmally inadequate. Table 1 shows details of the ICT equipment across institutions reflecting this inadequacy.

Besides the non-availability of the relevant equipment, usage was another problem. Said one of the heads of departments who participated in the FGD.

We considered getting an Internet Provider that we (can) route, so that, 20 students can access at a time but power (electricity) became another headache. We have a power generating set. But we cannot put it on for more than twice a week for probably a few hours on each date. And we need electricity to use the equipment. Therefore, the best option is to teach the students theoretically and ask them to find ways individually to gain access to ICT equipment including the Internet and carry out their assignments.

Electronic boards were used by one of the institutions to make up for the inadequacy of computer work stations. The institution mounted just a few computer systems and projected them on the electronic boards. The only challenge that remained unresolved through the approach was that the students did not have adequate access to computers for practice sessions (Table 2).

Table 1: ICT equipment in use in the mass communication departments of the polytechnics

ICT Equipment	Yaba Tech	Fed Poly Ilaro	Lagos Poly	Ibadan Poly	Wolex Poly
Multi-media projector set	0	3	0	0	0
Computer work station	10	25	10	5	4
Digital camera	5	15	10	5	2
Digital video recorder	3	5	2	2	1
Video editing software	5	5	5	5	2
Audio Editing software	2	2	2	2	2
Electronic board	0	5	1	0	0
Internet server	1	1	1	0	0
Electric power generator	1	1	1	1	1
Electricity power inverter (battery/solar)	0	2	0	0	0
Digital audio console	1	1	1	1	0

Table 2: NBTE-required ICT courses mounted by the polytechnics

Courses	Yaba Tech	Fed Poly Ilaro	Lagos Poly	Ibadan Poly	Wolex Poly
Computer Application for Mass Media 1 and 2	Yes	Yes	Yes	Yes	Yes
Computer Graphics for Mass Media	Yes	Yes	Yes	Yes	Yes

Table 3: ICT-based courses created as local contents by the polytechnics

Courses	Yaba Tech	Fed Poly Ilaro	Lagos Poly	Ibadan Poly	Wolex Poly
Digital Media	No	No	Yes	No	No
New Media Technologies	No	No	Yes	No	No
Internet and Web Design	No	No	Yes	No	No
Advanced Communications Graphics	No	No	Yes	No	No
Compulsory Computer Education (CCE)	No	No	Yes	No	No
Total	0	0	5	0	0

Table 4: Compulsory Courses taught with ICT inputs

Courses	Yaba Tech	Fed Poly Ilaro	Lagos Poly	Ibadan Poly	Wolex Poly
Introduction to research methods	Yes	Yes	No	No	No
Feature Writing	Yes	Yes	Yes	No	No
Copy Editing	Yes	Yes	Yes	No	No
News Writing	Yes	Yes	Yes	Yes	Yes
Public Relations	No	Yes	Yes	No	No
Advertising	No	Yes	No	No	Yes
Newspaper and Magazine Production	Yes	Yes	Yes	Yes	Yes
Photography and Photojournalism	No	Yes	No	No	No
Broadcast Production	Yes	Yes	Yes	Yes	No
TV Production	Yes	Yes	Yes	Yes	No
Radio Production	No	Yes	Yes	No	No
Total ICT-inputed courses	7 (63.6%)	100 (100%)	8 (72.7%)	4 (36.3%)	3 (27.2)

ICT impartation in course theories and practical work: The institutions studied did very well in implementing ICT-related courses but performed poorly in uploading local content courses rooted in ICT. Although, all the polytechnics studied mounted all required ICT-related courses (which they must do to obtain NBTE accreditation), only Lagos Polytechnic mounted local ICT-based courses as local initiatives (Table 2 and 3). The National Board for Technical Education requires only two compulsory courses that are ICT-based for mass communication students (Table 2). These two courses Computer Application for Mass Media and Computer Graphics for Mass Media are offered at National Diploma level. However, the NBTE encourages individual institutions to reflect contemporary ICT contents in other existing courses.

As Table 3 and 4 show, only Lagos State Polytechnic and the Federal Polytechnic, Ilaro adequately reflect ICT contents for most courses at practical and theoretical levels. Table 3 further shows that only Lagos State Polytechnic has taken the most initiative in developing ICT-rooted courses as local contents in order to fully ground their students in new mass communication technologies. These courses were notably New Media Technologies, Digital Media, Internet and Web Design, Advanced Communications Graphics and Computer Education. Federal Polytechnic Ilaro already planned to introduce similar courses when it commences Higher National Diploma programmes.

As revealed during the FGD, in many of the traditional courses reflected ICT components. These

courses cut across national and higher national diploma levels and included: Introduction to Research Methods, Copy Editing, News Writing, Broadcast Production, TV Production, Radio Production and Newspaper and Magazine Production. While the Federal Polytechnic, Ilaro had ICT contents in virtually all its courses, Yaba College of Technology and Lagos State Polytechnic had ICT contents in more than two-thirds of the traditional courses. The oldest mass communication institution in the polytechnic category (Ibadan Polytechnic) recorded less than 40% in terms of ICT inputs to its courses (Table 4).

Challenges and suggestions for ICT knowledge impartation methodology: The institutions selected for this study realized the importance of ICT in modern mass communication training. They were however seriously handicapped by several problems such as inadequate funds to procure the necessary ICT infrastructure and put them to use. Electricity was a major problem across the five institutions and only The Federal Polytechnic, Ilaro has found a way round the problem through its 15KVA power-generator with two power inverters ensuring round-the-clock electricity in the Department. Other challenges included the need to re-train the lecturers and the technologists because of the dynamic nature of ICT. The institutions unanimously called for a new curriculum that would integrate ICT in the relevant courses rather than leave it to the various departments as ‘local content inputs’. As one of the Heads of Departments who participated in the FGD corroborated this view. He remarked, thus: “Today, ICT is the heart and soul of mass

Table 5: Internet access at departmental level

Internet	Yaba Tech	Fed Poly Ilaro	Lagos Poly	Ibadan Poly	Wolex Poly
Infrastructure available	Yes	Yes	Yes	No	No
Connectivity	Occasional	Often	Occasional	Nil	Nil
Accessible by staff	Yes	Yes	Yes	Yes	Yes
Accessible by students	No	Occasional	No	No	No

Table 6: ICT proficiency

Description of proficiency	No. of institutions which met the description
Practical ICT skills impartation	3
Adequacy of ICT knowledge by lecturers and instructors	2
Adequacy of computer work stations to students	0
Internet infrastructure	3
Internet accessibility to students	0
Internet accessibility to lecturers	5
Adequacy of ICT in Courses	3
Availability of relevant ICT software	5
Adequacy of ICT-related courses	1

communication practice and it should be at the center, not the periphery of mass communication curriculum, especially in a polytechnic, which is supposed to be practical-oriented” (Table 5).

In order to enhance ICT-rooted mass communication training, the respondents recommend “more facilities for practical training, re-training of lectures and technologists on a regular basis and investments in ICT hardware and software” (Table 6).

DISCUSSION

This investigation generated enough evidence to suggest that Polytechnics in Nigeria are not pacing up with state-of-the-art technology in training their mass communication students based on recent standards set by the National Board for Technical Education and the Federal Ministry of Education^[1]. Basic equipment was not available and in the few cases where they were available, they were not adequate, going by the number of students being trained. If this situation persists, it may lead to low quality of journalists in the next decades.

The foregoing pessimism is strengthened by the finding that most of the lecturers and instructors in the institutions studied lacked enough ICT knowledge. The implication of this is that graduates being produced would have to be re-trained (by potential employers) in ICT in some key areas to cope with job requirements as the ICT continues to rapidly change mass communication practice. Nevertheless, in terms of the extent to which ICT is being deployed, the selected institutions were making concerted efforts to bridge theory and practice, which still fell below the threshold in terms of best standards.

Generally, however, the institutions studied were aware of the foregoing challenges and most of them claimed to be working towards overcoming it. Further

investments in ICT infrastructure, ICT training would and an overhaul of the Mass Communication Curriculum would have to be integrated into the strategies to overcome these challenges.

One fundamental flaw in the responses of the institutions to the adoption of ICT in mass communication training was their failure to properly conceptualize how to adopt the new technologies into existing training methodologies and course contents. It goes beyond just buying computers and re-training staff. All intervening variables in the adopted model must be factored in to create seamless adoption that is sustainable, even when ICT changes. Elsewhere where ICT had been adopted with remarkable success, there was conscious effort to develop or adopt a theoretical framework or methodology for the adoption^[7]. Examples of such models are: Model of IT Implementation Process, MIIP, Unified Theory of Acceptance and Use of Technology, UTAUT^[21], Theory of Planned Behaviour, TPB^[20], Diffusion of Innovation, DOI^[18]; Theory of Reason Action, TRA and Technology Acceptance Model, TAM^[15]. Innovations are not very easily accepted no matter how desirable the innovation is. There has to be a systematic intent to adopt innovations to make the adoption of such innovations enduring and result-oriented.

CONCLUSION

Data from this study suggest that polytechnics in Nigeria offering mass communication programmes have not adequately integrated ICT into their training. This trend portends a bleak future in that graduates turned out by these institutions might not be found employable by mass communication institutions, because mass communication practice has become digitalized. In the highly-competitive labour market, hardly can one expect an employer to hire a mass communication graduate that cannot effectively use the computer, navigate the web and stream reports online. Many of the training institutions are aware of this need (and the danger ahead) but they are constrained by inadequate funding. Based on the primary data generated from this study, the researchers conclude as follows.

ICT-based courses are not adequately deployed in Nigerian polytechnics. Examples of such courses are: Web Design, Online Editing, Media Convergence, Internet Marketing Communications, etc. Trainee journalists mainly learn general computer appreciation at the best, mostly lacking in ICT skills desirable for

journalists – social media techniques and tools, writing for Web, Web design, MTML coding, Web-scripting, Internet marketing, Photo shop, ICT for radio and TV, etc.

It was found during the FGD that the grading of ICT-based courses does not encourage ICT-learning as it is 30-70 for practical and theory, respectively. Mass communication lecturers, technologists and instructors are not adequately proficient in ICT skills. Similarly, polytechnics offering mass communication training do not currently invest in ICT infrastructure as they should. They are therefore not producing job-ready or self-employable products. The NBTE or the Academic Planning Boards of the various institutions have not adopted a suitable strategic and theoretical framework to successfully midwife the use of ICT in mass communication training in Nigerian polytechnics.

REFERENCES

01. NBTE., 2015. Curriculum and course specifications for mass communication. National Board for Technical Education, Kaduna.
02. NUC., 2015. Curriculum for mass communication programmes. National Universities Commission, Abuja, Nigeria.
03. McLuhan, M., 1964. *Understanding Media: The Extensions of Man*. 2nd Edn., Sphere Books, London, UK., Pages: 382.
04. McQuail, D., 2005. *McQuail's Mass Communication Theory*. SAGE Publications Ltd., London.
05. Bullen, C.V. and J.L. Bennett, 1990. Learning from user experience with groupware. *Proceedings of the 1990 ACM Conference on Computer-Supported Cooperative Work*, October 7-10, 1990, ACM, Los Angeles, California, pp: 291-302.
06. Burns, O.M., D. Turnipseed and W.E. Riggs, 1991. Critical success factors in manufacturing resource planning implementation. *Int. J. Oper. Prod. Manage.*, 11: 5-19.
07. Korpelainen, E., 2011. Theories of ICT systems implementation and adoption: A critical review-a working paper. Aalto School of Science & Technology, Aalto University, Finland.
08. Abati, M.O. and O.L. Abiola, 2019. Application of ICT in the teaching of mass communication: An exploratory study of selected Nigerian polytechnics. *Niger. Commun. Inf. Technol. J.*, Vol. 1, No. 1.
09. Akinfeleye, R.A. and I.E. Okoye, 2011. *Issues in Nigerian Media History: 1900-2000 AD*. Malthouse Press, Lagos, Nigeria.,
10. Folayan, B.J., O. Omojola, M. Egharevba, K. Oyesomi, D. Yartey and B. Adeyeye, 2018. The use of ICT-rooted communication codes and slangs among Nigerian students. *J. Social Sci.*, 4: 633-641.
11. Adamu, L.S., 2010. Expanding the frontiers of online journalism in Nigeria. *Unilag Commun. Rev.*, 14: 23-45.
12. Nwajuibia, C.A., K.O. Okoro and E. Edikpa, 2019. Evaluation of the extent of school access programme assisted teachers to acquire ICT skills. *Asian J. Inf. Technol.*, 18: 67-71.
13. Okoro, K.O. C. Enyi and V.O. Amanambu, 2019. Evaluation of the extent school access programme assists students to acquire ICT skills in South-East Nigeria. *Asian J. Inf. Technol.*, 18: 72-76.
14. Ayedun-Aluma, V., 2010. Information paradigm of development and communication problems in Nigeria. *Niger. J. Commun.*, 8: 118-137.
15. Davis, F.D., 1989. Perceived usefulness, perceived ease of use and user acceptance of information technology. *MIS Q.*, 13: 319-340.
16. Ajzen, I., 2010. *The theory of planned behavior*. University of Massachusetts, Amherst, Massachusetts.
17. Ajzen, I. and M. Fishbein, 1980. *Understanding Attitudes and Predicting Social Behavior*. Prentice-Hall, Englewood Cliffs, New Jersey, ISBN-13: 978-0139364358, Pages: 278.
18. Rogers, E.M., 1983. *Diffusion of Innovations*. 3rd Edn., The Free Press, New York, USA., ISBN-13: 9780029266502, Pages: 453.
19. Moore, G.C. and I. Benbasat, 1991. Development of an instrument to measure the perceptions of adopting an information technology innovation. *Inform. Syst. Res.*, 2: 192-222.
20. Ajzen, I., 1991. The theory of planned behavior. *Organiz. Behav. Hum. Decis. Process.*, 50: 179-211.
21. Venkatesh, V., M.G. Morris, G.B. Davis and F.D. Davis, 2003. User acceptance of information technology: Toward a unified view. *MIS Quart.*, 27: 425-478.
22. Gupta, B., S. Dasgupta and A. Gupta, 2008. Adoption of ICT in a government organization in a developing country: An empirical study. *J. Strategic Inform. Syst.*, 17: 140-154.
23. DeLone, W.H. and E.R. McLean, 1992. Information systems success: The quest for the dependent variable. *Inform. Syst. Res.*, 3: 60-95.
24. Kwanya, T., 2014. Effectiveness of ICT education in schools of journalism in Kenya. *J. Mass Commun. Journalism*, Vol. 4,