Use of ICT in contemporary mass communication training:
A study of selected polytechnics is South West Nigeria

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The reality of Marshall McLuhan's prediction about seventy years ago that technology would determine how mass communication is practiced has come full blown. Today, technology has radically shaped mass communication practice – both positively and negatively. On the positive side are: ease of practice, better quality and efficiency of practice, more profitability through cost-effectiveness, wider reach, more speed, and more skills, etc. On the negative side are increased incidences of 'fake news', cost, rapid changes in technology and of course challenges of training job-ready mass communication graduates. Potential users of mass communication graduates complain that many fresh graduates of mass communication were not be exposed to mass communication technologies currently while under training in the various institutions. This study investigates the extent to which mass communication departments of polytechnics are imparting in their trainees Information Communication Technology (ICT) knowledge. Five notable polytechnics were selected in South West of Nigeria as study locations. The study reveals that all the institutions are below the threshold (based on benchmarks set by the National Information Techjnology Development Agency, Nigeria supervisory body for ICT development) in giving their students up-to-date modern ICT-training related to mass communication.

Key words: ICT (Information Communication Technology), contemporary mass communication training, institution

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INTRODUCTION

Background to the study

Until the 1980s mass communication training broadly dwelled on newspapers, magazines and books (print media), radio, television and films (broadcast media); and advertising and public relations. At the turn of the 20th century rapid transformation of mass communication training began to emerge. Many universities and polytechnics began 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 names and course contents in many mass communication training institutions have radically changed to the dictates of the phenomenon known as ICT (Information Communication Technology). (NBTE, 2003; NUC, 2015). In Print Media Training for example, *Computer Graphics for Mass Media* has replaced *Lithography*. *Layout and Design* is giving way to *Digital Publishing*. *Media Covergence* is preferred to *Newspaper and Magazine Production*. Several entirely new ranges of courses have been introduced in most mass communication training institutions: *Web design, Online Editing, Computer Graphics, The New Media, e-Publishing, Cyberprotest, Digital Imaging, Citizen Journalism, Wed Designs, and Online Marketing* are few examples. There is no doubt that the mass communication (training) field cannot be exempted from the invasion of virtually all fields of human endeavour by the computer.

Perhaps the first major attempt to set this paradigm shift was made by a communication theorist, Marshall McLuhan through his famous "global village" declaration, predicted that technology would determine future communication. (McLuhan, 1964, Maliki 2017). He had foreseen that technology would literally merge communities and persons across the world into a single community. Today, McLuhan's prediction has become a full-blown 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 *iPods*, *mp3* and so on.

According to McQuail, the transformation in the technology of information and communication generation, processing, storage and dissemination witnessed in the 21st century unprecedentedly opened-up new media platforms unmatched in history in terms of interconnectedness, interactivity, multiplicity and accessibility. (McQuail, 2005).

The implementation of ICT system leads to organizational and individual changes and therefore user adoption and use of ICT systems have brought tremendous challenges in organizations and institutions. (Bullen and Bennet, 1990; Burns et al., 1991; Korpelainen, 2011).

Information and Communications Technology or (ICT) is an umbrella term that includes all technologies for the manipulation and communication of information. The term is sometimes used in preference to Information Technology (IT), particularly in two communities: education and

government. In the common usage it is often assumed that ICT is synonymous with IT; ICT in fact encompasses any medium to record information (magnetic disk/tape, optical disks (CD/DVD), flash memory etc. and arguably also paper records); technology for broadcasting information - radio, television; and technology for communicating through voice and sound or images - microphone, camera, loudspeaker, telephone to cellular phones. It includes the wide variety of computing hardware (PCs, servers, mainframes, networked storage), the rapidly developing personal hardware market comprising mobile phones, personal devices, MP3 players, and much more; the full gamut of application software from the smallest home-developed spreadsheet to the largest enterprise packages and online software services; and the hardware and software needed to operate networks for transmission of information, again ranging from a home network to the largest global private networks operated by major commercial enterprises and, of course the Internet. (Agorsor's meditation, 2010).

Introduction of ICT is rapidly changing not how mass communication is practiced, and of necessity, therefore, how mass communication education is done. ICT challenges the traditional concept of Mass Communication where according to the old definition, the source of mass communication message was defined as a large organization whose message is sent to a large heterogenous, scattered audience reached at the same time just as electronic commerce on the internet has transformed how advertising agencies present products and services for their clients.

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 Ango African*. (Akinfeleye and Okoye, 2011). *Iwe Irohin* was started by Rev Henry Townsend as a missionary and general-interest newspaper in 1859 while the *Ango African* was started in Calabar in ….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 at the time. The Daily Times of Nigeria (established in and the *Nigerian Tribune* (established in 1949) served as the training ground for most of Nigerian journalists. (Folayan, 2011) In fact, *Daily Times* eventually transformed 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 advertising agencies such as LINTAS, 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) which pioneered broadcasting in Nigeria 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 polytechnic 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.

Statement of the Problem

Given the dynamic nature of the field of mass communication, knowledge update ought to be rapid. According to Adamu, this requisite has been made more expedient by ICT which itself changes in shape, uses and components very rapidly; "hence, today's mass communication practitioner must constantly update his or her knowledge in an ever-changing world of ICT" (Adamu, 2010:p.9). Trainees upon graduation are expected to have more than just computer-assisted proficiency, but to practice mainstream ICT journalism which includes indexing and category, metajournalism (blogs, weblogs and blogging), share and discussion (email interview, teleconferencing.

The power, prevalence and promotion of information technologies have grown remarkably and at such a pace and to an extent that by 2001, social scientists could plausibly asset that information society theory (which deals with the impact of ICTs) has the status of a dominant paradigm. (Aluma, 2010). 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. (Aluma, 2010).

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

- 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 1, Basic Computer Application for Mass Media II, Computer Graphics for Mass – Media*, (at National Diploma [ND] level); *Multi-media and Online Journalism 1, 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 & 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 CentreRadio 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.
  (NBTE, 2015).

The critical question to ask from the foregoing is to what extent are mass communication training institutions in Nigeria coping with the challenges necessitated by ICT? In practice, are the foregoing guidelines by the NBTE adequate? To what extent are the polytechnics complying with the NBTE stipulations? 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 has established that the implementation of ICT systems in institutions and organisations must go through tested paradigms/models and methodologies to succeed –be it in a construction, manufacturing or educational setting. (Korpelainen, 2011). 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. 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). It was thus more of explorative, rather than an evaluative investigation. Therefore, in sourcing primary data, we surveyed 'telematic networks' which the Internet has opened in educational research perspective, that is:

Internet as a learning tool has been categorized into three broad areas: as a tool to develop training activities at schools in the form of a complementary activity, as a way to facilitate personal contact and therefore interaction among people, and as a resource to widen access to content and services (Sangrà 2001).

Collaborative learning. The link between collaborative learning and ICT has revealed stronger possibilities. Some research studies have focused on how students organize themselves to develop collaborative learning in a virtual environment and how this environment should be better designed (Guitert et al. 2003).

Learning virtual communities. Another research line has focused on how ICT can help to build actual learning communities in cyberspace (Renninger and Shumar 2002).

Research Questions
The following research questions guided this study:
1. How adequate are ICT equipment currently in use for mass communication training in Nigerian polytechnics?

2. To what extent is ICT reflected in the courses being offered and in teaching and practical in the study locations?
3. How should ICT be deployed for efficient and result-oriented mass communication training in the polytechnics?
4. What factors militate against the effective use of ICT for mass communication training in Nigerian polytechnics?

RELATED LITERATURE

Theoretical framework

Of the various theoretical frameworks used in adoption of ICT innovation, seven stand out. (Korpelainen, 2011). 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 (2011) has also made a major review of the application of these theories thus:

(1) Technology Acceptance Model (TAM)

Korpelainen reports that this theory is most cited theory in research publications related to the application of ICT innovation. Davis (1989) presented a theoretical model aiming to predict and explain ICT usage behavior, 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" (Davis, 1989, p.320). In these articles TAM was used in three different ways, namely to compare different adoption models, develop extensions of TAM, or replicate the model.

(2) Theory of Reasoned Actions (TRA)

The second most cited theory, according to Korpelainen, 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) (Ajzen, 2010). Fishbein and Ajzen (1975) developed TRA to define the links between the beliefs, attitudes, norms, intentions, and behaviors of individuals. The theory assumes that a person's behavior is determined by the person's behavioral intention to perform it, and the intention itself is determined by the person's attitudes and his or her subjective norms towards the behavior. 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 behavior in question" (Fishbein and Ajzen, 1975, p.302). Ajzen and Fishbein's (1980) book is focused on the prediction and understanding of human behavior to help in solving applied problems and making policy decisions. The authors state that TRA is applicable, for example, when studying consumer behavior, women's occupational orientations, or family planning behaviors.

(3) Diffusion of Innovations (DOI)

The third most cited theory in the study in reference was the Diffusion of Innovations (DOI). Rogers' (1983) book "Diffusion of innovations" is still regarded by research scholars one of the most referenced individual work, in the adoption of new ideas. (Korpelainen, 2011). 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 (1983) proposed the first process model, a five-stage model

of the implementation and adoption of innovation in organizations. Moore and Benbasat (1991) 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.

(4) Theory of Planned Behaviour (TPB)

Ajzen (1991) 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 behavioral control. Perceived behavioral control refers to the perception of control over the performance of a given behavior. In TRA rational considerations determine the choices and behaviors of individuals, and individual intentions determine behavior. 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 behavior is governed by personal attitudes, but also by social pressures and a sense of control. Ajzen (1991) reviews that the theory was applied, for example, in studies examining problem drinking or leisure behavior, in which the theory provided useful information to understand these behaviors, or to implement effective interventions to change them.

(5) Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT) was developed by Venkatesh et al. (2003) 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 behavior. The model considers four constructs as direct determinants of user acceptance and usage behavior, namely performance expectancy, effort expectancy, social influence, and facilitating conditions. There are four key moderating variables: gender, age, experience, and voluntariness of use.

(6) Model of the IT Implementation Process (MIIP)

The Model of the IT Implementation Process. Cooper and Zmud (1990) took Kwon and Zmud's (1978) model of the IT Implementation Process and developed it further. 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. Kwon and Zmud's (ibid.) 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.

(7) Information Systems Success Model (ISSM)

The last most cited theory, according to Korpelainen, is the Information Systems Success Model. DeLone and McLean (1992) 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.

Related studies

Sangra and Gonzalez-Sannamed (2010), 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 teaching favours 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 (2014) 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, Ayodele and Damilola found that, among other things, inadequate curriculum and insufficient facilities (including ICT) had constituted handicaps to mass communication education in Nigeria. They 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. (Ayodele and Damilola, 2017: p.83). Yet, Folayan, et. al. (2018) found that most students in Nigeria's tertiary institutions have good accesses (personally) to ICT tool, from where they learn and spread new slangs. Why then are these tools not deployed for training?

METHODS

The researchers adopted the survey method and the Focus Group Discussion (FGD) to triangulate method and instruments. The FGD was conducted to put the primary data generated from the fields in perspective. 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. (Ayodele and Damilola, 2017). 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, twelve (12) are located in the South-West. Five of the polytechnics in the South-West offering Mass Communnication programmes were purposively selected for this study, based on their ages and ownership. These are:

i) Department of Mass Communication, The Federal Polytechnic Ilaro (2/half years old)
ii) Department of Mass Communication, Yaba College of Technology, Yaba-Lagos (15 years old)
iii) Department of Mass Communication, The Polytechnic, Ibadan (40 years old)
iv) Department of Mass Communication, Lagos State Polytechnic, Ikorodu (25 years old)
v) Department of Mass Communication, 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 three years old at the time of the study. 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 questionnaires were 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.

FINDINGS

Response rate

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

Generally data generated from this study showed that the level of ICT equipment availability in the mass communication schools were inadequate. Although individual lecturers and instructors have personal access to the internet and to computers, 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 the institution with 25 sets , this number was grossly inadequate to impart meaningful practical knowledge to its 350 students. It is worst 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.

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 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.

The use of electronic boards was used by one of the institutions to make up for the inadequacy of computer work stations. The institution mounted just a few 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 5)

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

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

ICT impartation in course theories and practical

The institutions studied did very well in implementing ICT-related courses but performed poorly in uploading local content courses rooted in ICT. Generally, the impartation of ICT knowledge was average.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.

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

SN	Courses	Yaba Tech	Fed Poly Ilaro	Lagos Poly	Ibadan Poly	Wolex Poly
1	Computer Application for Mass Media ! & 2	Yes	Yes	Yes	Yes	Yes
2.	Computer Graphics for Mass Media	Yes	Yes	Yes	Yes	Yes

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

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

As Table 3 and 4show, 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, the institutions studied ensured that in developing their course contents, they reflected ICT. 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 that 40 per cent in terms of ICT inputs to its courses. (Table 4).

Table 4 – Compulsory Courses taught with ICT inputs

SN	Courses	Yaba Tech	Fed Poly Ilaro	Lagos Poly	Ibadan Poly	Wolex Poly
1	Introduction to Research Methods	Yes	Yes	No	No	No
2.	Feature Writing	Yes	Yes	Yes	No	No
3	Copy Editing	Yes	Yes	Yes	No	No
4	News Writing	Yes	Yes	Yes	Yes	Yes
5	Public Relations	No	Yes	Yes	No	No
6	Advertising	No	Yes	No	No	Yes
7	Newspaper & Magazine Production	Yes	Yes	Yes	Yes	Yes

8	Photography and Photojournalism	No	Yes	No	No	No
9	Broadcast Production	Yes	Yes	Yes	Yes	No
10	TV Production	Yes	Yes	Yes	Yes	No
11	Radio Production	No	Yes	Yes	No	No
	Total ICT-input courses	**7 (63.6%)**	**100 (100%)**	**8 (72.7%)**	**4 (36.3%)**	**3 (27.2)**

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 challenge 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 the various departments as "local content inputs'. As one of the Heads of Departments who participated in the FGD put it; "today, ICT is the heart and soul of mass communication practice and it should be at the centre, not the periphery of mass communication curriculum, especially in a polytechnic, which is supposed to be practical-oriented."

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).

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	Frequency across study locations
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 elevant ICT software	5
Adequacy of ICT-related courses	1

CONCLUSION AND RECOMMENDATIONS

This investigation generated enough evidence to suggest that Polytechnics in South-West 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, (NBTE,.2014). 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 between 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 (Korpelainen, 2011), there was conscious effort to develop or adopt a theoretical framework or methodology for the adoption. Examples of such models are: Model of IT Implementation Process, MIIP, (Cooper and Zmud, 1990); Unified Theory of Acceptance and Use of Technology, UTAUT, (Venkatesh, 2003); Theory of Planned Behaviour, TPB, (Anzen, 1991); Diffusion of Innovation, DOI (Rogers, 1983); Theory of Reason Action, TRA (Fishbein and Ajzen, 1975) and Technology Acceptance Model, TAM (Davis, 1989). 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.

RECOMMENDATIONS

Based on the primary data generated from this study, the researchers recommend as follows:

1. There should an overhaul of mass communication curricula for mass communication training in Nigerian polytechnics which would emphasize ICT-based courses such as Web Design, Online Editing, Media Convergence, Internet Marketing Communications, etc. The trainee journalist needs more than general computer appreciation. He or she needs to be proficient 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.
2. The grading of ICT-based courses should be 70-30 for practical and theory respectively and the NBTE should reflect this accordingly.
3. Mass communication lecturers, technologists and instructors must be re-trained in ICT at least once in two years due to the constantly-changing world of ICT
4. Institutions that offer mass communication training must invest in ICT infrastructure in order to produce job-ready or self-employable products.
5. The acute shortage of funds to executive the lofty intentions of most of the mass communication institutions studied could be overcome if the institutions commit resources in to generating incomes internally. This could come from projects such as Radio Stations, Commercial printing and Web service; photographic and video services, etc.
6. The NBTE or the Academic Planning Boards of the various institutions should adopt a suitable strategic and theoretical framework to successfully midwife the use of ICT in mass communication training in Nigerian polytechnics.

LIMITATIONS

An enthnography or participant-observation method (rather than a survey) would have given the researchers an in-depth knowledge of how the foregoing challenges actually inhibit mass communication training. In other words, the researchers relied on the Heads of Departments of the institutions who completed the questionnaires and participated in the FGD to be truthful and had no opportunity to verify the accuracy of information given to further strengthen the validity of the data generated. In addition, the fact that researchers did not seek the opinion of students in the study locations, may further reduce the accuracy of data generated. However, the fact that the three of the researchers are employees in some of the institutions studied who had first-hand knowledge of the situations - reduced this limitation. Nevertheless, further studies that would capture students views on the phenomenon are recommended.

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