

Information Re-Packaging: The New Technologies as Enhancement Tool for Teaching and Learning of General Studies Programme in Tertiary Institutions

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Abstract

The emergence of new technologies has brought about a paradigm shift in all spheres of life. Education is not left behind in this new era of information technology, hence information repackaging is a strategy in enhancing teaching and learning in tertiary institutions. The conventional approach of classroom interactions in teaching and learning is declining with the development of new technological tools. The relevance of General Studies in University curriculum is to develop students' horizon in diverse perspectives for holistic knowledge. This article looks into the overview of teaching and learning of General Studies Programme in Nigeria Universities with a view to elucidating various ways of using information communication technology in the enhancement of teaching and learning of the programme. The article identifies some of the challenges facing the enhancement of using information technology tools in teaching and learning of General Studies, and strategies adopted to overcome these impediments. The study predicates its analysis on communication theory as the theoretical framework necessary to exploit the broad spectrum of technology, and it concludes with recommendations on the way forward.

Keywords: Information Re-Packaging, New Technology Tools, Teaching and Learning

Introduction

The development and speedy innovation of information communication technologies (ICTs) have brought about changes in individuals, groups, and organizations which must be adapted so as to survive in the competitive society. The Education Sector is not left behind in this new development. Information and communication technologies (ICTs) are the major driving forces of globalized and knowledge-based societies of the new era. This revolutionary changes which is taking place in information and communication technologies (ICTs), has dramatic effect on the way tertiary institutions carry out their functions of teaching and learning, particularly on the creation and application of knowledge in general studies programme. These developments pose unprecedented challenges to education in developing countries like Nigeria.

This is why Brodjonegoro (2002) acknowledged that information communication technology is a catalyst in developing quality education. Improvement in higher education and better resource sharing among the vast number of higher educational institutions, facilitated by ICT, is expected to lead the improvement of the nation's competitiveness that will ultimately bring about stronger human capacity and economic development. Improvement of quality education is one of the primary targets of ICT development in the country, sharing of ideas and experiences in a global framework.

Teaching and learning of General Studies in universities exposes one to important ideas and intellectual activities that bring students from both science and arts together. Historically, according to Nwabara (1984:24),

all the ingredients of teaching and learning in the "primitive" home were categorized into four units of the General Studies Programme – Humanities, Social Sciences, Natural Science and the Use of English. By that categorization, the subjects learnt in the early formative years in the home were formalized into academic disciplines rooted in the students' cultural milieu. Cognisant of the fact that man was endowed from birth with 'the seeds of every possibility and every life', the General Studies Programme makes explicit what is implicit in the students by reinforcing specialization and placing it in a wider perspective with the stamp of cultural significance.

The UCLA (<http://www.college.ucla.edu/ge/>) acknowledges that the general education curriculum provide diverse new knowledge. It argues that the courses offered in the general education curriculum provide diverse perspectives on how human beings think and feel, solve problems, express ideas, create and discover new knowledge. The general studies programme helps students acquire the skills essential to university-level learning. The courses challenge students to assess information critically, frame and deliver reasoned and

persuasive arguments both orally and in writing, and identify, acquire and use the knowledge necessary to solve problems. The university system requires its undergraduates to take a number of general studies courses out of the deep conviction that living a successful and satisfying life demands a wide range of skills, competencies, expertise and knowledge. Whatever the student's area of specialization or career plan, he will need the skills to reason logically and quantitatively, and to communicate effectively. For this reason, as information gathering is a prerequisite in knowledge development, the use of library which was embedded in the Use of English (a component of the general studies programme) was recently separated as a core course in general studies programme known as GSP 111 – The Use of Library and Study Skills - as directed by the National Universities Commission (NUC).

Nwabara (1984:24) sees general studies as the nomenclature for general education. He notes that the purpose of this education is to prepare the youth for effective leadership roles in diversified and specialized fields in the society. He emphasizes that the general studies programme is the tool needed for intellectual emancipation and social integration of the individual in a pluri-cultural and poly-ethnic society such as Nigeria. Information communication technologies have been defined by many researchers in different perspectives. According to Rijsenbrink (1997), ICT can be seen as the technologies that support the communication and co-operation of human beings and their organization and the creation and exchange of knowledge. The Association of African Universities (2000) sees it as shorthand for the computer, software, networks, satellite links and related system that allow people to access, analyze, create, exchange and use data, information and knowledge in ways that, until recently, were almost unimaginable. This refers to the infrastructure that brings people together and time zones, with multimedia tools for data, information, and knowledge management in order to expand the range of human capabilities.

Teaching and learning of general studies programme is faced with unprecedented challenges since the starting of the 21st century because of the advancement in the new technologies which has posed challenges in the way knowledge is imparted. ICT has turned from being a technology to communication and information to a curriculum creation and delivery system for teachers and learners. However, there is an unresolved tension around the issue of ICT as a subject that comprises the knowledge, skills and understanding to make appropriate production and use of ICT, or as a set of tools with which to deliver and absorb other subjects in the curriculum. Smith (1999) argues that usually the focus is always on the subject being taught or studies rather than developing students' skill with knowledge of the technologies themselves. This calls for changes in the environment, and if this changes persistently occur, it will affect professionals in the field, students, their role, job opportunities, self-image, as acknowledged in various research works. This article therefore is set out to establish the importance of using ICT tools in enhancing teaching and learning in tertiary institutions, specifically as it relates to general studies programme in universities.

The Need for Information Repackaging

Repackaging means the presentation of existing practices in a more desirable, understandable, acceptable and usable form. In today's world, old ideas are repacked and presented in new formats. Educational sector is not an exception. Repackaging occurs in education in order to have better teaching and learning experiences, and for the system to forge ahead with the ever-changing technological softwares.

We are not trying to condemn the conventional method of teaching and learning outright, but because information communication technology (ICT) has tremendously changed the way education is delivered, as Fisher (2001) says that ICT can facilitate differentiation and individualization in education. It makes it possible to tailor both the content and the presentation of the subject matter to the individual background, experience and needs of students. In addition to this, Schiller and Tillett (2004) cited in Hassana (2005:1) argue that ICT enhances what is possible by amplifying what teachers are able to do, by providing an entry point to content and enquiries that were not possible without the use of ICT, by extending what students are able to produce as a result of their investigations, and finally by providing teachers with the opportunity to become learners again. Repackaging the process of teaching and learning general studies in universities with the use of information communication technologies will optimize utilization of resources and maximize the quality and efficiency of learning process, system and activities. Many studies have found it to be as good as or better than traditional approaches (Alexander (1995). These studies have shown that information technology increases motivation; permits self-paced learning; alleviates computer anxiety; provides instant feedback; encourages self-directed incidental learning; and provides students with greater control over their own learning.

Taylor and Rives (1986) quoted in Alexander (1995) have advanced some reasons for repackaging information to include the following:

- To customize information to user needs.
- To facilitate dissemination, organization and communication.
- To simplify i.e. an annotated bibliography is like a map in the world of information overload.
- To facilitate interactivity between user, knowledge base, and technology.

Repackaging of general studies programme will go a long way in taking care of those logistics that hinder efficient teaching and learning of general studies in universities such as scarce resources, managing large classes, issuance of assignments to very large classes, organizing continuous assessment collation, administering examinations, marking and grading of scripts, high cost of running the programme, lack of classrooms and theatres, dearth of infrastructures, etc. ICT serves as a saving tool mechanism because it will assist in reducing the amount of time lecturers may have to spend on a particular subject being taught. ICT will serve as a selective and systematic sorter of useful information where lecturers and students are provided with better, relevant, usable and current information, selected on the basis of their needs and presented in a language and format which will be most useful to the lecturers as well as the students.

ICT Tools for Teaching and Learning

According to Meliala and Sarumpaet (2007), education objective is to facilitate the students towards behaviour change in the intellectuality, morality and sociality, so that they will be able to be an independent individuals, social people and future leaders. In order to achieve the desired objective, the students have to interact with their educational environment set up by lecturers through learning process. They further highlighted that teaching methodology is method and technique used by lecturers/teachers in interacting with the students in order to transfer knowledge to the students so as to master the learning objectives. These ICT tools used in teaching process, if used in teaching of general studies programme in universities, will enhance the ability of students' comprehension of the subjects taught.

ICT has provided many ways to make teaching and learning worthwhile for lecturers and students. Students love challenges and giving their work meaning will motivate them to explore more challenges. It allows the students to be the focal point in the learning process and gives the teacher recognition. E-learning is one of the dividends of ICT in teaching and learning process. It is the delivery and administration of learning opportunities and support via computer, networked and web-based technology to help individual student's performance and development. E-learning technique, as a facilitator, can be adopted in the teaching of general studies programme where the lecturer facilitates learning by asking students to locate materials from online sources. Examination can also be taken electronically to reduce cost, minimize examination malpractice, eradicate examination leakage and less examination stress. The key to the development of these new capabilities is the global network, the internet where there are vast number of resources available almost instantly from all over the world. The internet helps to enrich the curriculum content and the instructional approaches of teachers. The internet provides access to library information, online databases and journals (such as HINARI, PERI, JSTOR, GOOGLE, YAHOO, etc.). Packages like Microsoft office, excel, power-point, CorelDraw, etc are used to prepare teaching and learning materials, reports and presentation of seminars, and projects. Lecturers with the use of ICT can have their lecture notes in electronic format, and stored in a server device. Technological hardware like computers and overhead projectors can be fixed in the classrooms for the lecturer to avoid using chalk and dusters as well as public address system for audibility.

Value and Benefit of ICT as Teaching Tools

The information communication technology, as e-teaching and learning tools, has enhanced tremendous benefits and value for teaching and learning processes that capture the interest of students, thus:

- It makes the subject matter clear and understandable.
- It makes learning interesting for students.
- It enhances optimal utilization of resources and maximize the quality and efficiency of learning process.
- It facilitates effective and efficient communication through electronic communication.
- It makes for more variations instead of verbal communication so that students will not get bored and the teacher will not run out of energy.
- It enables lecturers and students to search for teaching and learning materials, and research information on the internet, access library information, access online databases and journals.
- It makes for students participation in class activities.

Challenges of ICT in Teaching and Learning of General Studies in Universities

Information technology presents critical challenges for universities in effort to adopt the ICT tools for teaching and learning. It offers as alternative method of teaching, more effective and lower-cost form of instruction instead of lectures being the predominant mode of instruction, computers and multimedia presentations could augment or even supplement the lectures and redirect the responsibilities of learning to the students. Information communication technology has not been fully adopted for teaching and learning in classroom interactions by some lecturers due to less commitment to computer literacy. Most lecturers prefer the use of conventional method of teaching to adoption and adaptation of the ICT made-easy approach. There are numerous challenges facing education sector which have obstructed that sector of the economy to key-in in the global technological

strive to improve teaching and learning strategies in our universities. Some of the challenges being experienced in universities include:

Resistance to Change: Managing change within the academia is essentially about managing people since it is people that effect change. People who are such a critical factor in change implementation can also be a stumbling block to the change process by resisting change (Smith, 2005:1). Pendlebury (1999:199) identified the following causes of resistance to change as lack of realization of a problem; not grasping the implementation of a solution; outright rejection of a solution as it is seen as the incorrect option; fear of the outcome of change; and lack of interest. This kind of behaviour, according to him, is often the result of a vision not clearly communicated or unwillingness to face up to the demands of change. Furthermore, Kirkpatrick (2001:20) identifies some additional factors why people resist change to include:

- **Security** – fear of potential job losses. People are afraid of adopting ICT for fear of not doing the routine work they are used to, the fear of being rendered redundant by computer. Lecturers seeing themselves as not being physically relevant before their students as ICT is dislodging them in preference to technological learning devices.
- **Financial** – the fear of loss of income. The fear of receiving less income due to adoption of new innovation that compete favourably or even superior to existing practice might lead people to resist change. Students are likely to be alienated from their lecturers because technological tools provide alternative source of knowledge. For example, sourcing materials direct from the internet will dissuade students from the purchase of instructional materials from lecturers.
- **Pride and Satisfaction** – technological innovation might make jobs and skills redundant. People may fear losing their expertise to technological tools/equipment thereby rendering their jobs and skills irrelevant in the system and this is capable of destroying their ego/pride in teaching profession.
- **Freedom** – structural changes might infringe on freedom of decision making of staff in a system. Participatory role in decision making processes gives one a sense of belonging, boost ego and job satisfaction, and this certainly affects the level of increase in productivity, promotes healthy rivalry and mutual cooperation amongst staff, dilutes conflicts, and sustains good relation between labour and management.
- **Authority, Responsibility and Status** – restructuring existing practice might lead to a loss of status, authority and responsibilities. In this sense, change creates fear and anxiety in individuals. Hence the old saying in a wild goose chase that “the devil you know is better than the angel you do not know”.

These factors give account why most academic staff are computer illiterate. Information and communication technology cannot be effectively utilized in teaching and learning if lecturers and their students are not embracing change and apparent challenges in instructional technology. This trend is adversely affecting university graduates as most students leave school without the knowledge of computer due to unwillingness and uncompromising posture of the lecturer towards change, coupled with inaccessibility of computers by most students either because of non-availability of the equipment at the departmental or faculty ICT-room or lack of money to procure for self due to high cost of computers.

Policy Formulation on ICT: The National Universities Commission has not formulated a national policy on ICT coordination in universities; apart from individual universities’ efforts to integrate ICT in its activities; there is no national ICT policy to guide the development and its utilization across institutions. The implication is that most networks in universities have evolved in ad-hoc manner without coordination, making sharing of information and resources very difficult. Similarly, lack of properly documented inventory for ICT resources at universities’ level makes sharing of resources and experiences of success stories on the use of ICT very difficult. Notwithstanding the limited bandwidth which is affecting internet connectivity, in some cases, the limitation of bandwidth is due to the fact that the channel capacities available are not enough, while in some others it is due to bottlenecks caused by viruses and spam. The traditional mindset of depending on multi-national corporations and other international donors for financial and material support unfortunately blinds the universities of the ample opportunities available within the institutions to harness resources inwardly through broad national policy guidelines.

High Cost of Training Staff: Staff training is capital intensive. Its financial involvement, coupled with the constant change of ICT software and hardware, encouraged limitation of number of participants in each training programme. The beneficiaries of ICT training in our universities so far are not adequately sufficient to make the desired impact in academic technology. The ICT skill acquisition is very low and quite demoralizing. Hence, lecture method is being the predominant mode of instruction in the universities. Implementation and development of information technology will enhance students experience, supplement the curriculum and teaching technique. One of the major barriers is also the cost of ICT equipment. The instructional materials are above the reach of some departments, including the School of General Studies. Universities have competing factors for meager resources and every segment of the system is in dire need of ICT equipment for research, teaching and learning. The dearth of fund has limited the acquisition of this very important teaching tool.

Secondly, universities lack formal plan for integrating information communication technology into the curriculum and financially support acquisition of equipment and facilities technology requires. Universities are slow in integrating information technology into the classrooms, either because most institutions are not financially buoyant to make the large front-end investments needed to fully exploit information technology's potential, or that information technology models focused on the technically literate rather than on a cross-disciplinary approach. Therefore, non-technically oriented disciplines sometimes lack the support services to assist universities in developing, creating, and using information technology for research, teaching and learning (<http://www.techvideos.com/papers/it/index.php>).

Considering the benefits of information communication technology and its relative costs, there are many benefits and costs associated with it that must be looked into when evaluating the overall effectiveness of this technology and the reasons for its limited use. The following issues are being examined to highlight the potential advantages and demerits of ICT in adopting technological tools as the medium of instruction in universities:

- **Quality of Learning:** The parameter used to assess any teaching technique must evaluate how the quality of learning has been affected. A good method of teaching promotes clear comprehension of the subject matter, encourage students to understand and synthesize information, and aid to improve students' written, oral, and critical thinking skills. Alexander (1995) argues that studies have shown that information technology is as good as or even better than traditional approaches because it increases motivation, permits self-paced learning, alleviates computer anxiety, provides instant feedback, encourages self-directed incidental learning, and provides students with greater control over their own learning. Secondly, a perfectly structured ICT allows information to be presented in a user-friendly, easy-to-understand, and visually-simulating format by combining graphics, audio, and video. Any lecture that incorporates ICT will have enormous advantage in the university system since research has shown that people on the average remember less than 20 percent of what they read; but they will remember up to 80 percent of what they see and hear. Therefore, lecture taught using ICT is more likely to be remembered by the students.
- **Lecture Preparation:** A disadvantage of ICT is the high cost associated with curriculum preparation. As most lecturers prefer to prepare their own lectures, developing multimedia lectures can take significantly longer than traditional approach. This is because lecturers must not only create and find materials, they must also learn new software packages and best determine how to use this technology. This is time consuming process, coupled with the fact that most lecturers are not trained in creating information technology.
- **Unreliable Power Supply:** Electricity is the engine hub of ICT development, very essentially indispensable in the application of projector, computer, and the media. Irregular and epileptic power supply has serious adverse effect on online and other technological instructional hardware for teaching and learning. Improved power supply ensures effective use of ICT as instructional mechanism to facilitate learning, preserve reagents for research and practical classes. Inadequate power supply hampers research, teaching and learning, and technological development in our tertiary institutions.
- **Barriers on Evaluation:** Universities are evaluated significantly based on their research accomplishments than in comparison to their teaching performance. Therefore, universities are most often less motivated to improve the quality of their teaching. This accounts for lecturers' performance being evaluated through measurement of contact hours with students instead of their contribution towards teaching and learning. Implicitly, teachers' time is being measured like that of unskilled labour (using a time clock to regulate input). As a result of this mechanical approach, teaching profession has been ridiculously debased, made to appear both easy and undemanding.

Strategies to Overcome ICT Impediments

Samuel and Bakar (2007) observe that the unparalleled development of information and communication technology tools within the last thirty years has given a tremendous boost in supporting new modes of service delivery in training, teaching and learning. ICT tools help students in acquiring competence as well as enhancing the quality of learning experience. The use of ICT tools in teaching and learning general studies programme, in spite of its usefulness, have suffered many impediments in its usage. These impediments outlined above can be overcome through the following strategies:

- **Acceptance of Change:** Change has no alternative, it is permanent and inevitable in life. Positive changes in our universities system should be embraced by all and sundry to launch the universities into the ICT world through integration of ICT into the teaching and learning experiences. The adoption of online registration of general studies students, online lecturing of general studies programme, continuous assessments, examinations administration, release of general studies results through the internet will improve teaching and learning processes, reduce stress, minimize cost, control classroom

congestion, ease the difficulty in large class management, and reduce excess workload.

- **Policy Formulation on ICT:** There is need for the federal government through its agencies – Federal Ministry of Education and the National Universities Commission (NUC) to formulate a national ICT policy guidelines for the universities to develop and utilize the technology across institutions for cross-breeding of new ideas, new technological development and application of the novel paradigm in teaching and learning of general studies programme, and other university programmes. This will guarantee the share of information and resources easily. The national policy on ICT usage will encourage proper inventory documentation for free access to resources and experiences of success stories on the use of ICT in universities.
- **ICT Skill Acquisition:** No investment in staff development is a waste of resources. The National Universities Commission has it in its functions as a statutory mandate and corporate social responsibility to equip universities with internet facilities. Universities on the other hand, has a duty to embark on massive acquisition of ICT equipment and intensive training of academic staff, especially the general studies staff as part of staff development programme with improved support from the government, rather than the haphazard and selective application being currently practiced. Since information communication technology is expensive venture, staff need to be encouraged through monthly ICT allowance and/or subvention to augment individual expenses on ICT.
- **Regular Power Supply:** Electricity is an indispensable factor in effective and quality education. ICT cannot be adopted effectively in teaching and learning in universities without sufficient and regular power supply. Therefore, there is need for improved capacity of power supply in the universities for uninterrupted research activities, teaching and learning processes and meaningful ICT compliance.
- **Evaluation of Performance:** The academia predominantly focus on teaching and research as well as community services. Evaluation of performance ought to be based on these three variables. As research achievements is being recorded, special attention needs to be given to the quality of teaching in our universities. The general contribution towards teaching and learning needs to be weighed higher, even above all factors and research accomplishment be considered as a complement to successful teaching and learning. Updating knowledge through research activities serves as a facilitator of qualitative teaching and learning of general studies programme. In this case, involving students in evaluation exercise is essential. To checkmate laxity, the students' evaluation of the lecturer's punctuality and regularity to lectures, performance rating and his commitment in teaching, continuous assessment, behaviour in the class, students' and lecturer's relationship should be considered as paramount determinant factor or essential parameter in appraising academic staff in each session, to improve productivity.

Conclusion

Information communication technology, as learning tools, has brought about many opportunities and challenges in all spheres of life, especially in educational sector. In the university system, general studies is essential programme necessary for all round development of students potentials. For general studies programme to thrive, the lecturers in the field must be adequately trained through formal and continuous education in ICT for acquisition of skills and competences in order to have effective interactions in teaching and learning processes, and create conducive environments for lecturers to cross-breed ideas on new technological development at a horizontal level among tertiary institutions so as to share success stories commonly. On the strength of the important roles of ICT in general studies programme, the authors recommend that adequate ICT facilities be provided in universities for effective and qualitative teaching and learning. Every staff should be computer literate and must be encouraged at all times through all necessary incentives to acquire computer and up-date his/her knowledge of new computer softwares.

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