Innovation In Teaching & Learning In Nigerian Higher Institutions

Olaiya, O.O. & Eze, B.E.
Department of Computer Engineering
The Federal Polytechnic,
Ilaro, Ogun State, Nigeria.
yinkakol@gmail.com**,** ebereblessing247@gmail.com

ABSTRACT

The neglect of Innovation in Teaching and Learning in Nigeria higher education and technical training institutions over the last three decades has negatively impacted on the capacity of the continent to supply the needed skills base, especially in science and technology. Under pressure of increasing demand and in some cases conflicts, the institutions of higher learning and training have deteriorated without tracing root of repairs. In the meantime, Nigeria Government will continue to import expensive technical assistance, which is a short term remedy but does not enable the country to build its own STI (Science, Technology and Innovation) capacities and skills base. Thus, the paper shall discuss more on Innovation in Tertiary Education (Teaching and Learning) in Nigeria which will bring about the excepted change in the field of Science, Technology and briefly in other fields for our Universities and Polytechnics.

Keywords: Innovation, Teaching, Learning, Technology, Education.

1. BACKGROUND TO THE STUDY

Change and innovation are twin bedfellows that measure a country technological inclination in the world. Change implies giving up old ways of doing things; innovation involves new ways of doing things. At the driving wheel of change and innovation is intellectual effort that includes thinking up new ways of doing things. While innovation is the fruit of constructive change, the conceptual framework and management of the change process is crucial to the success and impact of the innovation. What triggers change and how are innovative ideas generated? In a tertiary education environment, who determines the ideas that can lead to constructive change? And who should lead the change process? Has the personality, competence and vision of the head of institution got anything to do with it? Are questions to be answered by individuals who indeed want Innovation to have strong root in our Educational Sector? Reforming and transforming higher education systems in Nigeria to energize and unlock the minds for brighter economic prospects is one of the main objectives of this higher education, science and technology strategy.

Science and technology are vitally important for increasing Africa's competitiveness. Innovation will contribute to accelerate economic growth through the provision of the needed expertise in science and technology, including intermediate and higher level vocational and technical skills which must be called into our tertiary Education in Nigeria of today. According to The National Universities Commission (NUC) report showed that there are 65 universities in Nigeria including 26 federal universities. 24 states universities and 23 privately owned institutions. There are also 65 polytechnics made up of 17 federal, 26 state owned polytechnics and 22 privately owned polytechnics. However, only about 8% of graduates from these various institutions are annually employed (NUC 2007). Various studies have queried the relevance of graduates and research results to the industry considering the low intellectual reasoning, academic status and skill acquired by product from various institutions. Lack innovation shall continue to mail the purpose of establishing our tertiary institutions by the government. Despite all these shame and flop, many universities are not yet ready for this change and governments have been slow to take the lead. While there are instances of innovation, the landscape is fragmented, various barriers prevent widespread uptake, and fully-fledged institutional or national strategies for adopting new modes of learning and teaching are few and far between. This is why, after series successful report on 'Improving the quality of teaching and Learning in Nigeria higher education institutions keep failing cause of the willing to give innovation and change a chance. The research challenges facing our tertiary institutions can be enumerated.

2. STATEMENT OF PROBLEM

Despite increasingly widespread adoption of technologies in virtually every aspect of education, significant challenges are preventing widespread effective implementation. According to researchers, though some of those challenges are systemic and some related to the technologies themselves, teachers and education leaders share in the blame as well. . Among those issues are challenges that represent significant constraints on the adoption of technology in education. In past reports, those challenges have centered largely on reluctance on the part of administrators and teachers, lack of preparation, and lack of support or funding. This year's findings followed largely along those lines as well, though some new challenges were identified as well. In other words, what to change is not the problem; it is how to change that presented the major challenges of the mandate to transform our educational system. Knowing how to change must inevitably include finding answers to why change is difficult. What are the barriers to change?

2.1 Barriers to Change
In the cause of research and experience over years, we have identified a few pertinent reasons why it is often difficult for African tertiary institutions to introduce new ways of doing things. Although these roadblocks or change resistors may be internal or external to the institution.

2.1.1 Professional Development
Key among all challenges is the lack of adequate, ongoing professional development for teachers, lecturers who are required to integrate new technologies into their classrooms yet who are unprepared or unable to understand new technologies. All too often, when schools mandate the use of a specific technology, teachers are left without the tools (and often skills) to effectively integrate the new capabilities into their teaching methods," according to the report. "The results are that the new investments are underutilized, not used at all, or used in a way that mimics an old process rather than innovating new processes that may be more engaging for students."

2.1.2 The weight of tradition
Tertiary institutions take pride in their autonomy, resisting (as far as is possible) interference from outside forces and influences. They like to be seen to be doing things "the way it is done in tertiary institutions. Resistance to technology comes in many forms, but one of the key resistance challenges identified in the report is "comfort with the status quo." According to the researchers, teachers and school leaders often see technological experimentation as outside the scope of their job descriptions. Indeed tradition can become a resistor to change, in particular for young and developing institutions that are looking forward to calling innovations to their teaching and learning aid.

2.1.3 Failure to use technology to deliver effective formative assessments
The report noted: "Assessment is an important driver for educational practice and change, and over the last years we have seen a welcome rise in the use of formative assessment in educational practice. However, there is still an assessment gap in how changes in curricula and new skill demands are implemented in education; schools do not always make necessary adjustments in assessment practices as a consequence of these changes. Simple applications of digital media tools, like webcams that allow non-disruptive peer observation, offer considerable promise in giving teachers timely feedback they can use."

2.1.4 Lack of exposure
A management team that has limited knowledge of new developments and innovative practices in
Reputable institutions elsewhere will suffer from a poverty of ideas. Meaningful excursion to other advanced institutions are no longer embarked by both students and lecturers for them to be introduced to MOOC (Massive Open Online Course)

2.1.5 Absence of a shared vision
An institution without a shared vision is like a passenger bus on the road but going nowhere. The driver and the passengers have no common destination in view and no agreed route to follow. A shared vision enables all stakeholders to see change through the same pair of lenses. When staff and students have the same mental picture of the future of their institution, it is easier to obtain support for change. Building a shared vision is best achieved through strategic planning, but exceptional leadership can succeed in building a follower-ship that shares the vision and aspiration of the leader.

3. METHODOLOGY

Recognizing the institutional barriers to change is not enough to create a congenial climate for constructive change without taking into account the human factor in change management. Kotter and Schlesinger writing about strategies for change in a business environment mention parochial self -interest, misunderstanding and lack of trust, and low

tolerance for change as some of the reasons for employees' resistance to change. To counter these negative tendencies, they suggest education and communication, participation and involvement, and facilitation and support for those likely to be negatively affected by the change. While the schools sector in different Member States has undertaken various actions and initiatives on online learning, national authorities have, to date, been hesitant in involving themselves in these issues in the higher education sector. While accepting that pedagogy and curriculum design are matters for institutions, governments are responsible for defining the policy, legal and funding frameworks which have a direct impact on the motivation and ability of institutions to integrate new modes across higher education provision. Yet there is a clear lack of comprehensive national strategies in the vast majority of Africa countries (Nigeria). This is simply not good enough for it belies an inertia and lack of ambition which future generations will not thank any of us for. Policy-makers need to shift into a higher gear. The innovative idea needed for the excepted change shall be listed and discuss.

3.1 Changing culture through strategic leadership
The development of a national vision and framework on how new modes of learning and teaching will be used to support high level policy goals for the higher education system is an essential first step in delivering the change that is required across the Country. This process will provide an opportunity for dialogue with all stakeholders and will raise the profile of, and add impetus to, new developments. Strategies should provide clarity on the diversity of provision expected across the system (on-campus, distance, online, short-type provision, etc.), supports for enhancing conventional provision through the use of ICT, and also address issues associated with newer forms of provision (e.g. MOOCs) and new types of non-higher education providers. National strategies should identify necessary national support structures that are needed to facilitate the take-up of new modes and approaches such as funding, infrastructures and training, and should outline policies on essential aspects such as quality assurance, credit and recognition, open access and copyright. Authorities should not seek to be overly prescriptive, or to try to "pick winners", but instead the aim should be to develop conditions that encourage and embrace innovation, and generate real momentum. Nigeria has the chance to become a centre of gravity in higher education innovation using these new tools and technologies. More importantly, Nigeria needs to establish its credentials as an innovator in this sector.

3.1.2 Digital skills for learning and teaching
Ensuring all staff in higher education institutions have the skills and attributes necessary to successfully use these new technologies, an incorporate them into course delivery, will be essential to the successful mainstreaming of new modes of learning and teaching into conventional provision and the expansion of online learning opportunities. The wide ranging selection of tools, programmes, technologies and information sources can make it difficult for teachers to know where to start. New technologies and associated pedagogies require a very different skill-set from more conventional teaching, and this can place additional pressures on teaching staff. Academic staff are not all technology experts and in many cases, they have not received any form of pedagogical training at all. They need specific training, guidance and support if they are to deliver quality teaching. This is especially true as the integration of these new modes of teaching is resulting in a changing role for teachers, from knowledge transmitters and experts in a particular subject to mentors and facilitators of critical thinking. In our last research from Europe Union, that they called certified pedagogical training for all teaching staff and the introduction of mandatory continuous professional development.

Digital skills need to be an essential element of this. Institutions must also provide digital skills training for students, especially for first year students. Evidence shows that students are not being prepared adequately in schools for digital learning. A recent Commission survey showed that in all tertiary institutions in the country except a few, over half of students do not use ICT for projects or class work. If students are not receiving these skills in school, they must in higher education. This goes further than enhancing them student learning experience; it is about acquiring skills that are essential in the labour market and, increasingly, simply for everyday life. Institutions must also be conscious of the need to replicate the softer skills acquired during an on-campus learning experience in online offerings. Networking and interacting with peers is an important element of the learning experience, and online platforms for doing this, such as Google hangouts and Second Life, must become an integral support for online students.

3.1.3 Quality assurance and accreditation
It is equally important that quality assurance procedures do not act as a barrier to the emergence of creative and innovative pedagogical developments and course design. In particular, requirements for individual programme accreditation sometimes create rigidities that do not encourage the timely adaptation of courses, including the introduction of novel approaches and pedagogies. In this regard proper monitoring should be constantly embarked by the NBTE (National Board for Technical Education) and NUC (National Universities Commission) to differently institutions without making any awareness to the schools management about their visitation. In so doing, good and

proper observation of the requirements (manual approach and technological wise inclination) that should be meant for quality accreditation would have reached the standard of consideration instead of accrediting based on the year of establishment of the institution or reckoning with the past glories of the institution. Quality assurance and accreditation is also one of innovative idea in our tertiary institution cause it promote concise change in our educational sector.

3.1.4 Modernising library

Virtually all institutions in Nigeria has a library, forgetting that library is an academic powerhouse of the institution in which consistent messages and updated information can be sourced out to both the teaching staff and the students. The strong support of the Government in modernising the libraries together with the recruitment of Competent librarians will reciprocate that positive changes we have been expecting in our educational sector, which could be achieved by the following:

i.   The computerisation of libraries, enabling the circulation of books to be done electronically and manually

ii.   The air-conditioning of   libraries for the greater comfort of users

iii.   A three-fold increase in the stock of library holdings over period years

3.1.5 Introduction of annual inter-instructions debate and technological exhibition

Government should create a platform for Inter- Institution debate between students of different higher institutions on yearly bases with meaningful topics to be discussed on as Conferences across the globe as been working wonders in the Nation. In so doing Innovative idea as regards change needed in our educational sector will be revealed and steps in which this can be achieved by both the teaching staff and the students will be high listed by different debating teams knowing that we have brilliant and great forum of intellectuals in our country. The area of workshop and technological exhibition among schools should also be call in for different schools to know the latest advancement in technology worldwide. Exhibition is a great tool of Innovation, because it set the seize wheels into instant motion.

4. RECOMMENDATION

The integration of digital technologies and pedagogies should form an integral element of higher education institutions strategies for teaching and learning. Clear goals and objectives should be defined and necessary organizational support structures established to drive implementation. National authorities should facilitate the development of a national competency framework for digital skills. This should be integrated into national professional development frameworks for higher education teachers. All staff teaching in higher education institutions should receive training in relevant digital technologies and pedagogies as part of initial training and continuous professional development. National funding frameworks should create incentives, especially in the context of new forms of performance based funding, for higher education institutions to open up education, develop more flexible modes of delivery and diversify their student population. Public authorities should develop guidelines for ensuring quality in open and online learning, and to promote excellence in the use of ICT in higher education provision. National authorities should introduce dedicated funding to support efforts to integrate new modes of learning and teaching across higher education provision. Funding should encourage collaborative responses to infrastructural needs, pedagogical training and programme delivery.

5. CONCLUDING REMARKS

We need technology in every classroom and in every student and teacher's hand, because it is the pen and paper of our time, and it is the lens through which we experience much of our world. Within higher education, new technologies have enormous potential to effect change. They enable universities to meet a broader range of learners' needs, adapting traditional teaching methods and offering a mix of face to-face and online learning possibilities that allow individuals to learn anywhere, anytime. They also create openings to engage in new kinds of collaboration and offer opportunities to distribute resources more effectively. Given the societal and economic potential that can come from harnessing technological innovation in higher education, it is imperative that Nigeria is still behind in this arena.

REFERENCES

1. Kotter, J.P. and Schlesinger, L.A., "Choosing Strategies for Change", Harvard Business Review, March-April, pp 106 – 114 (1979)
2. Nilakant, V. and Ramnarayan, S., "Managing Organisational Change," Response Books, New Delhi (1998)
3. Covey, S.R., "Principle -centred Leadership", Simon and Schuster, New York (1991)