

Teaching and Research Innovation in Nigerian Universities

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Networking Higher Educational Research for Effective Teaching in a Developing Country

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ABSTRACT

Educational Research and indeed any other type of research is multifarious and multi-disciplinary, thereby involving multi-dimensional-approach, if any research exercise were to be efficiently and effectively conducted and to yield meaningful and utilizable results. Networking educational research could make teaching more effective as findings from a networked research undertaking could be very meaningful and usable by a larger target group than would have been yielded by educational research undertaken solo. This is because a networked educational researching would involve the mathematics teacher, the science teacher/educator, the economics educator, the evaluator, the education manager among others who would synthesise their knowledge, attitude and skills together for synergy teach-

ing and learning researching, which will in turn culminate in the sharing of knowledge and skills and in specialization in the process of the researching, resulting in gaining of experience and dexterity in the undertaking meaningful research exercise which would bring about improved teaching methodology and management simultaneously. Networked educational research must involve the community which Higher Education serves whether local, national or international. The concomitant effect of a networked research would include cross-border or interdisciplinary or multi-disciplinary broadening of improving teaching knowledge, skills, management and methodology. This is due to the fact that findings would be shared and applied by varied people and possibly from diverse climes; cost of undertaking the project could also be minimized than if it were undertaken solo or by a few partners; effectively disseminated findings would form basis for training those who did not participate in the undertaking, but who would apply these findings in routine teaching for improved learning.

1 Introduction

Research in any field of human endeavour is multi-faceted because it involves multi-talent and multi-disciplinary approaches. Education is also a multi-disciplinary undertaking requiring multi-talent approach to undertaking a comprehensive involvement of the various experts in the field of education- the education manager, the teacher educator and the teacher, the evaluator, the educational psychologist, the special educator among others if such research exercise were to yield comprehensively applicable results in the field. The concomitant outcome of this, is that researching in any area of education particularly teaching which is a core area of education at all levels should not only be collaboratively undertaken but also must be networked across institutions and possibly across borders if it were to make impact meaningfully on its intended audience. This is more so a needed approach in higher education re-

searching because is also a core mandate of the university system, the apex of higher education industry. The concept of networking educational researching being advocated in this paper is neither congruent nor exactly similar to the one posited by Onuka (2011a) that there should be both multi-disciplinary approach and public-private, public-public, private-private partnership in educational researching for better and rapid developmental oriented research results in developing countries. Networking for educational researching entails that various educational technocrats or higher institutions network with one another to carry out research and exchange outcomes which can be meta-analysed to come out with a more encompassing result applicable to educational situation nationally and regionally on the continent of Africa. It implies that a teacher educator in Nigeria can network with other teachers both in Nigeria and other countries in the region with the view of exchanging ideas, research findings and/or jointly undertaking researches continuously with each researcher contributing to the research effort by doing the same thing and at the same time in their different areas where they domicile or higher institutions, and analyze the results of their research jointly aggregately and disaggregately to bring to the fore what obtains nationally and regionally. It could also take the form of the mathematics educator networking with the library media specialist, the evaluator, the education manager, instructional technologist or education media specialist among other stakeholders in the industry to find effective and efficient ways of engendering improved teaching and learning of mathematics at all levels particularly in higher education institutions. The outcome of such research networking would enhance the teaching-learning process as the process itself involves management, evaluation, the use of library-physical and virtual etc as well as instruction media all of which will work together when properly harnessed through research to promote effective teaching and learning in any discipline just as Onuka (2011a) observe that partnering for educational

researching would increase the authenticity of the outcome of such research efforts and Onuka (2011b) which found that collaborative research funding engenders greater level of availability of funds to undertake research with the concomitant better research output for better educational development and by extension the national development. It is not impossible that the collaborating partners have diverse and varying knowledge and understanding of different aspects or a particular aspect of their research undertaking, such that these become a synergy as the weakness of one partner in one aspect, say statistical analysis, in case, of an empirical work, while perhaps the analyst has weakness in properly reviewing literature and in reporting research output, the other may be verse in these areas. The net effect is that their roles in the research efforts become complimentary, thereby enriching the quality of the work. To remove the challenges confronting research in developing countries, these have to be identified and network with others in synergy to frontally address the identified challenges. Kothari (2004), for instance, identifies the following challenges of research in a developing country as including:

- lack of scientific training in research methodology, which according to him constitute a great impediment to research;
- insufficient level of interaction between the research community and the prospective consumer of research output;
- lack of confidence by the business community in the integrity of the research institutions' or individual honesty in utilizing research equipment/fund, it supplies;
- lack of adequate information on researches conducted, thereby resulting in overlapping; non-existence of research code of conduct;
- inter-university and inter-departmental/faculty rivalries;

- insufficient level of secretarial assistance and lack of timely available published data from government and other agencies among others.

While Onuka and Onabamiro (2010), Howe (2008), Egbule (2008) Udegbe and Odigwe (2008) and Sambo (2005) variously agree with him that these challenges plus the challenges of effective research management, funding, research integrity etc confront effective educational researching in Nigeria, noting that when they are removed, educational researching will invariably improve teaching at all levels of the Nigerian education system. There is no doubt that effective research networking by teachers in same disciplinary and inter-discipline will facilitate effective teaching in the higher education sub-system in Nigeria as research by Onuka (2007a) had proven that a researching teacher is far better in facilitating learning than his non-researching counterpart because he brings innovation into teaching and could also be inventive in applying new and synergistic teaching methodologies especially if he networks with other researching counterparts.

2 Research networking [ER]

Networking is a process by which researchers connect with each other or one another in their researching efforts, by exchanging ideas and materials that would facilitate and enrich as well as broaden the horizon and results of their individual research efforts. The problem of inadequate funding of educational researching can be easily overcome when there is trans-border or inter-disciplinary or inter-personal research networking among academics in the Nigerian higher education system, as the research network partners may pool their individual resources in terms of their knowledge or expertise together to prosecute their research [without hindrance] or exchange these resources to individually apply them to researching and sharing their findings to help one another in their indi-

vidual teaching endeavours. According to Adetayo and Onuka (2011), funding is a potent barrier to effective educational researching in Africa, thereby corroborating an earlier finding reported by Onuka (2011a) that except there was collaborative research funding, effective educational researching would be a mirage and an illusion. Kasozi (2009) submits that funding hinders higher education development including research, which is a mandate of the University system, in Uganda and in all of Sub-Saharan Africa excepting the Republic of South Africa. Onuka (2007a) found that the teacher who undertakes research was likely to teach better than one who is content with old knowledge, yet when research finding cannot be disseminated due to lack of funds to embark on publicizing the research work very widely networking will do so and will enrich those networking together for educational researching whether it is teacher-education, medical education, economics education or some other form of education like management, theological education etc. Networked ER must involve the community the sector serves whether international or national or local, who will ultimately consume the product of ER, since the involvement of these various publics would inform the researchers of their needs which will in turn form a basis for the content of the particular research undertaking. Only a needs-based research would yet the relevant and consumable output by its stakeholders. Integrity of all networking educational researchers must be proven so as to build confidence of all members in one another and in the outcome consuming publics of higher education institution research outcomes. In research ethics must be accorded high priority by all ER network members. The figure below outlines possible model for networking educational researching: Figure 1: illustrates a form of ER networking. The various researchers may be from different disciplinary backgrounds or institutional or national backgrounds. These networking researchers connect with one another or institutions or nations as well as their various stakeholders for applicability

of research outcomes.

3 Empirical evidence

Empirical evidence abound about various aspects of researching, however, there is a little evidence to show that in Sub-Saharan Africa much of cross border or higher institutional educational research networking takes place. Bamiro and Adedeji (2010) and Onuka (2007b) that only a trickle of research funding comes from Nigeria or are contributed by Nigerians, thus hampering research undertaking and only cross-border or inter-institutional research networking in the Sub-Saharan Africa can help to build not only research base but also effective contribution to the pool of knowledge and the concomitant utilizing of research findings to build African inspired development which will thereby liberate the continent from the clutch of dependency. According to Kasozi (2009), the trend in Sub-Saharan Africa outside of South Africa is dependency on foreign aids for educational and other developmental researching and since he who pays the pipe dictates the tune, the likelihood that foreign funded research will yield appropriate African applicable findings could be far-fetched. Onuka further reasons that government alone cannot and should not be left to solely fund research but that universities which have a tripartite mandate of teaching/learning, research and community services, should source fund from the community for research undertaking to enable her teach better and also contribute more meaningfully to the development of their various communities since researches engender both quality teaching and community services.

When research is networked among teachers in higher education researching aimed at improving effective teaching/learning and the concomitant community development, there will be a resultant national development as the knowledge industry horizon of Nigeria or other developing countries would be broaden and made open to all for rapid national and individual Nigerians'

development. Scholars such as Ifamuyiwa (2004), Badru (2007) and Adetayo (2011) found that new instructional techniques and learning strategies can engender teacher effectiveness, thereby propelling student attitude to learning more effectively. Onuka and Durowoju (2011), Turyatamba (2008), Egbule (2008) and Amoo and Onuka (2011) variously observe that continuous assessment and research output when properly used could enhance higher education learning in Business Management, and that higher education research itself improves higher education teaching and student achievement. Ekhaguere (2010) corroborates that fact when, he reported that the award winners of the 2010 Ford Foundation in Teaching Innovation Nigerian universities. According to him, Professor A.S. Ahmed of the Department of Chemical Engineering, Ahmadu Bello University, Zaria came first with his Desktop Learning Module [DLM] which of resulted from researching, Dr. Mohammed Dauda of Department of Mechanical Engineering, University of Maiduguri, won the second place prize for employing combining multiple modern teaching-learning strategies with the traditional chalk and talk method also resulting from ER while the third was won by Professor Peter-Brown U. Achi of Depart of Mechanical Engineering, Federal University of Technology, Owerri for involving in curriculum designing from the industrial perspectives being a product of networked educational researching. All these buttresses the fact that networking ER produces consumable outcomes.

4 Benefits of educational research networking

Training and mentoring

One major problem of higher education teaching is the challenge of mentoring and training of junior academics by the senior ones (Onuka and Onabamiro, 2010). Networking research whether undertaking across border or within bor-

der offers opportunity for mentoring and consequently facilitate the training of upcoming academics. Thus, effective educational networking across institutions will act as avenue for academic mentoring and training in Nigerian higher institutions and the problem of quality and / or standard in the Nigerian higher education sub-system would be assured. The senior could also learn from the junior, who is most likely to be more adventurous in exploring new developments and endeavoring to apply than senior who may not be all adventurous until such mentee comes around new ideas that he also can learn and imbibe and then apply such, in the mentoring process. Ekhuagere aforementioned also reported all the aforementioned Ford Foundation award winners were all mentors of their students. *Exchange of knowledge and research experience* Arising from effective educational networking because effective exchange of knowledge and research experience will enrich the researching effort of those who network educational research together, as they will become dexterous in the teaching and learning facilitating process. Dayal (1983) observes that research effectively promotes management education and by implication it can be added that educational research networking will facilitate greater speed of national development through proper management of the knowledge industry through exchange of research findings with regard to the teaching and learning process. Educational research had given rise to positive developments in curriculum, assessment, instructional techniques and aids as well as educational management and innovative teaching (Turyatamba, 2008; Adetayo & Onuka, 2011). A good and relevant curriculum resulting from educational research creates greater opportunity for the acquisition of relevant skills for national development of an economy and also the concomitant human development. *Learning about similarities and dissimilarities from across borders or institutions* It is noteworthy that educational research networking across border or institutions or disciplines will definitely assist in identifying similarities and dissimilarities in approaches

to teaching and learning in higher institutions and strengthen each other in minimizing weakness and improving on the other's strengths. In fact, this is what happens when one attends conferences/workshops across borders or institutions. Such development will help remove the problem of in-breeding which is quite common in our clime. Educational research networking in Nigeria will surely ameliorate this problem; add innovation to teaching approaches in our various institutions of higher across the country. Learning from others improves one's performance in all areas of human endeavours.

5 Ease of access to information and the role of the library

Networking in educational researching at the tertiary can only be meaningful if the librarian is involved as he/she can assist with relevant information as s/he it is who acquires, stores, manages and make information available on request with ease. The librarian could, therefore, very useful in storage and retrieval of relevant educational research and teaching information for application. The librarian would provide information or directs one to where information can easily be gathered and properly organized for use in research and teaching. Access to teaching, learning and relevant research resources would be much easier by networking with the librarian whether it virtual or physical access that is involved. Resources would thus become easily available for utilisation in research, teaching and learning.

6 Cost and time saving device

The cost of undertaking research is quite enormous and time consuming when done individually. However, when it is networked it can result in cost and time

saving as the cost will reduce and time consumption curtailed as a result of the synergy gained from networking. Time wastage would be minimized because more than one hand are on deck and so resulting time wastage is critically curtailed as having to source and sift information before utilizing it and perhaps having to do the analysis and all that alone would also be reduced to an acceptable level.

Could enhance nationally and regional educational and economic development as various experiences are pooled together Higher educational research networking across institutions or border will bring about enhanced national and regional economic growth and development of African countries which are almost all categorized as developing or more appropriately as dependent countries, unlike the latin America and the Asian Tigers that are emerging economies. It is obvious from the way Ghana develop its movie or nollywood industry in the last few years because their artiste networked with the Nigerian counterparts who obviously are the leaders of that industry worldwide, that research networking can develop/improve teaching in a developing country like as Nigeria. *Improved teaching and learning experiences* It is a proven fact that in Nigeria, teaching and learning had be improved as a result of applying research findings in the teaching and learning process (Onuka, 2007; Onuka and Junaid, 2007; Onuka and Durowoju, 2011; Adetayo, 2011). The role of research in facilitating educational development is not in doubt. Much more will networking in educational researching engender greater degree of effective teaching and the resultant or attendant learning, because the effectiveness of networking which engender is in greater as may be measured by the quantum of learning that may have take place, which is mainly done through evaluation of the teaching and learning process. Wider dissemination of research findings and the resultant wider applicability Networking in educational research cannot but results in wider dissemination either nationally or regionally and indeed

globally. This is because dissemination of a networked higher educational research output would also be done by networking partners, which will definitely give it a wider scope dissemination and reach. In other words, networking in higher educational research is very likely to stimulate widespread dissemination and the concomitant application of research outcomes to promoting rapid educational development and the most likely culminating national and regional development. This can be done through hosting your work on a website and you can imagine how wide it will go and your audience can thus request for assistance because you are networking your research output with an audience you could not have easily reached.

7 Conclusion and recommendations

This paper has shown how networking educational researching could engender the African regional and Nigerian national development, because findings from such efforts or from any member of the researching network will be disseminated and utilized not only the institution where it was carried out but also in other institutions where members of the network are domiciled. Network members exchange of ideas and utilized findings from one another's work, thus broadening one's work horizon and knowledge and possibly skill base too. By implication, therefore, the importance of higher educational research networking in promoting effective teaching and by extension learning cannot be ignored, but must be harnessed and use for national or regional development of Sub-Saharan Africa. It promotes also opportunity for mentoring young academics across institutions/countries, thus facilitating the capacity building of the academia in a developing like Nigeria to teach more effectively and thereby engendering the right quantum of effective learning in higher institutions and invariably at other levels of the education sector. Ethical issues must be upheld by all ER network members in order to build confidence in one another and in

the consuming publics of the outcomes of their efforts. Thus, the network must factor in the consuming publics from the outset of any educational research undertaking. In other words, the consuming community or relevant stakeholders from the planning stage of such research. Consequently, networking in higher education researching must be encouraged to enhance exchange of teaching innovations and inventions among members and across institutions and trans-borders in order to promote effective teaching and learning achievement in the Nigerian and indeed African educational system.

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