



UG RESEARCH POLICY GUIDELINES

GUIDELINES FOR THE PROMOTION OF HIGH QUALITY CUTTING EDGE RESEARCH WHICH ADVANCES KNOWLEDGE

Introduction

The world has become a knowledge based society, where the custodians of knowledge invariably hold the balance of power and thus the advantage of leading the world. Modern knowledge offers the opportunity to improve livelihoods. Thus, knowledge is critical in order to stay competitive in an ever changing world. As a source of new knowledge, research in universities, along with government and industry are the critical pedals that shape a knowledge based economy in any country. The key question, especially in the developing world is the role of universities in economic development, poverty reduction and the sustainable use of natural resources. The key to achieving this is to look at research not only as the origin of new knowledge but also as a process that trains people to create more knowledge.

University Research

Research is particularly important for higher education and national development. The international commission on education for the 21st century has reiterated that without higher education institutions and adequate research, no country can achieve real indigenous and sustainable development. To be relevant to national development, universities and their institutions need to increase knowledge through research. Many African universities today have lost their capacity for doing sustainable research as a result of poor leadership and constrains of funds from government. Shabani (1995) noted that while many African countries formally acknowledge the importance of the role of research in the socio-economic development process, they have failed to give the needed precedence to the development and the adoption of the various resources needed for cutting edged research. Today, Sub- Sahara Africa unfortunately contributes the least to research funding in the world. Mater (1999) emphasizes that without research, universities quickly lose the ability to offer first class graduate studies and to attract and retain quality staff and postgraduate students. The many constrains according to Traore (2002) affecting the capacity of universities in Africa to engage in cutting edge research include, lack of strategic vision in research , lack of infrastructure, poor research funding, poor remuneration for research staff to mention a few. For a university in Africa, these hurdles would have to be overcome to open doors for high quality research.

High quality cutting edge research is the bedrock of any first class university; it drives knowledge creation, innovation and funding. The University of Ghana currently has very limited government subvention to support research and inadequate industry linkages consequently leading to low levels of research funding, publications or innovation. Despite these constraints, the university still recognises high quality research as a hallmark of excellence and world class status.

World Class University

A world class university is one with faculty members doing first-rate research, in the basic sciences to the applied as in the hybridization and manipulations of genomes of organisms as well as the ability to secure international and collaborative funding. The faculty members should be widely cited and associated to important discoveries, thus attracting other talented researches and students around the world.

A world class university has technology transfer high on the agenda which in turn spins out companies and consequently being in a position to train manpower to man these companies. World class universities generate ideas, for example, development of new crop varieties or production of sustainable energy sources that the citizenry depend on. One of the most important

attribute of a university engaging in cutting edge research which advances knowledge is its ability to train responsible and reasonable students capable of making informed decisions based on independent scientific bases and who are in demand in academia and industry both locally and abroad.

The University of Ghana would aspire to move closer to some of the world renowned universities who have achieved world class status through cutting edge research. The University would be positioned at the centre of national networks of innovations and entrepreneurship in all important and emerging fields through its research engagements. Research in this regard would seek to be:

1. Relevant to local needs and development and create an impact as attested to by local end-users
2. Synonymous with attracting high calibre graduate students and research personnel coupled with quality innovations.
3. Associated with contributions of its staff to local and international journals, books and other publications.

To achieve the above, the university would expand and diversify its range of cutting edge research by:

1. Scientific and academic partnership.
2. Financial incentives for productive faculty to promote research culture.
3. Significant increase in the number and proportions of masters and PhD student.
4. Continuous capacity enhancement and mentoring for younger researchers.
5. Research partnerships to increase graduate student research productivity.
6. Independent monitoring and evaluation of research practice to ensure quality.
7. Creating an enabling environment for publication\ research and teachings labs.
8. Research environment and infrastructural enhancement.
9. Work experience, community service and industrial involvement.

Scientific and Academic Partnerships

The best universities in the world have been in existence for ages and have gone through the pains of evolving into world class universities engaging in cutting edge research. The University of Ghana would endeavour to strike partnerships with some of these universities in the developed world to enable faculty and students take part in cutting edge research, come up with joint publications, patents and other products. These partnerships should include the exchange of staff, with staff of the University of Ghana engaging in research in state of the art laboratories and receive training on the use of equipment that they would not have had access to at the University Ghana.

Special efforts would be made to build strong relationships with multinational companies involved in the supply of reagents and equipment. One thing that delays research and hence affects the quality of research is the availability of reagents and consumables. The University would enter into a partnership with for example Sigma to open a depot on campus to stock the most used chemicals and consumables. This facility would be hooked up to the University ITS system and faculty members could order various items they may need for research. A need

analysis of the most used reagents and consumables would be carried out to identify those used frequently by faculty.

These would ensure that basic items like Petri dishes, pipette tips, and other basic reagents are always available. Further agreements could be entered into with large commercial laboratories that would help train staff on up to date research techniques and expose them to research and development at the highest possible level. The University would create the desired environment for these partnerships to thrive and be viable.

Incentives for Productive Staff

The University of Ghana would improve the level of research by instituting attractive prizes and awards for staff that excel in research in a particular year. This current award for best researchers would be enhanced to include paid visits to established research Centres in developed countries for training as well as a reduction in their teaching duties. Travel and accommodation funds to attend conferences and present papers would be provided as a motivation for high quality research. Teaching loads should be reasonable in order to give faculty ample time for research. Teaching loads must be given based on one's research output. Members of staff who do less or no research must get heavier loads while those who are active researchers must get lighter ones. An enabling environment would be created for increased publications and high quality research. The University would develop good quality journals where faculty members can publish their research. An effective editorial board comprising members with the experience, expertise and exposure would be set up to maintain the highest possible standards. The University journal thus would be given the necessary reverence and contribute to staff promotions for those who shall publish in it. Faculty members will acquaint themselves with on-going research in other departments and potentially foster inter-departmental collaborative research through these media. Other incentives like paying for membership fees of various professional bodies would also be considered to encourage faculty members to work harder while gaining access to papers or journals that come with being members of those bodies.

Continuous Capacity Enhancement and Mentoring Programmes

At the University of Ghana there are faculty members who have been able to attract substantial amounts of foreign funds for various research projects. These people would be given the platform to share best practice to especially relatively new faculty members to enable them learn the techniques in writing proposals, sourcing for research funds and managing projects. Creating a university where high quality cutting edge research is practiced has to be a collective effort and is incumbent on all faculty to join hands to promote the University research culture. The office for Research Innovation and Development (ORID) would work hard to provide faculty members with the information and technical expertise to practice high quality research. The office would aid in linking faculty members to institutions abroad with training and funding opportunities. ORID would endeavour to foster interdisciplinary research projects and negotiate with national international organizations for funding opportunities from which faculty members can apply to and access funds. The University would provide the institutional support for mentoring programs, institute starter grants and innovation grants for faculty members.

Research Environment and Infrastructural Enhancement

The University through ORID seeks to create a research environment and host conferences ORID would assist individual departments to hold fairs and open days about their line of research to attract potential clients from industry and other stakeholders. Absence of equipment is a stumbling block to achieving research of high quality. Special efforts would be made to

equip the laboratories in the various faculties with the latest equipment, software and consumables to perform analysis that are now sent elsewhere. This would improve the quality of research and make results comparable to those in advanced countries.

Monitoring and Evaluation of Research Practice to Ensure Quality

For every process to work at an optimum there needs to be monitoring and evaluation and useful feedback for process improvement. ORID would ensure that research in the university is of the highest quality and productive to tackle pressing needs in the country. Research productivity measure helps in conceptualizing the benefits, relevance and acceptability of the university's research for national development (Oyewole, 2007). A structured process would be instituted to regulate and monitor research productivity as well as help to improve the research quality of faculty members. In addition to research journal publications, an assessment of research extension and the ability to attract external grants would be included as criteria for assessing productivity.

Work Experience, Community Service and Industrial Involvement

The University of Ghana would engage industry and all other relevant stakeholders to evolve research agenda so that activities would be well embedded within the framework and needs of the organizations. The principal agent demand driven and multi-stakeholder problem based models (Juma, 2011) would underpin most of the research considerations. For example, a collaboration could be established between Nestle` and the University of Ghana to work on using Sorghum to produce their 'Cerelac' line of products or with the Ministry of Environment Science and Technology and Ministry of Food and Agriculture to work on a project of national importance such as climate change. These collaborations would improve the quality of research and potentially yield new courses hence advancing knowledge at the University.

Increase in Proportion of Graduate Students

Any research intensive university carrying out research at the highest level recruits graduate students of high calibre. Good PhD and Master's students to start a research agenda as they spend more time in doing research under supervision from faculty members. Collaboration with research institutes as the Council for Scientific and Industrial Research (CSIR) would aid both in creating partnerships as well as build capacity. As much as possible, students would be encouraged and supported with funds to travel to conferences to present papers and also to publish findings.

Conclusion

The vision of a University that carries out high quality cutting edge research that advances knowledge should be a collective one. Faculty members must buy into the idea and work towards achieving the vision. It requires the political will of the University hierarchy and the willingness to make major changes to move the University of Ghana forward. Aside the funds and collaborations needed, it most importantly requires a change of mentality and the injection of professionalism into the entire University structure.

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