Research Matters: The Problem of non-Research-Intensive Institutions in Developing Countries

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Kenya Methodist University
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Research Matters:
The Problem of non-Research-Intensive Institutions in Developing Countries

Dr Chao Charity Mbogo
Kenya Methodist University
chaombogho@gmail.com

ABSTRACT
What if a PhD graduate starts their academic career in an environment that is not research-intensive? Such is the environment in most developing countries. This presentation will address the current situation of research facing institutions in Kenya. I will also present some suggestions that could be implemented in order to propel the research quality in institutions in developing countries.

AUDIENCE
Students and faculty members in developing countries or those who envision an academic career in developing countries are targeted. In addition, I encourage everyone who is interested in conducting research and working with students and faculty in developing countries to attend as well. Further, I would like to invite everyone who has ideas of how the students and faculty in developing countries could build their research careers and form research collaborations amidst the challenges.

INTRODUCTION
In February 2016 an article was published that decries the poor quality of education in Kenyan universities (Munene, 2016). Some authors have claimed that the declining quality drives Kenyan students to seek higher education overseas (Ng'ang'a, 2011). The World Bank has also raised concerns on the quality of graduates being produced by universities and colleges in Kenya (Wanzala, 2015). The most recent and dramatic indication of just how bad things are is when the Kenyan Commission of University Education (CUE) revoked five doctoral degrees awarded by a local university (Wanzala, 2016a). It emerged that the five students had only studied for six months each before receiving their doctorates (Munene, 2016).

These illustrate a problem that is magnified, perhaps even caused by, the poor research culture that abounds. For example, it is common knowledge that some students neither write their own research proposals nor collect or analyze their own research data. This is evidenced by the numerous advertisements around town offering research services to students for a fee (example in Figure 1). The nagging question then is, why do the students need research services from external sources if the institutions are doing enough to train these students to conduct their research themselves?

A probable answer to this question is that institutions are not succeeding in imparting the importance of original work or, crucially, the importance of quality research itself. One author illustrated how a student, Ogenda, pursued his MBA at a Kenyan university whose research phase he passed with flying colors. However, Ogenda was rejected when he applied to join a PhD programme at an overseas institution on grounds that his MBA research did not meet international standards (Bellows, 2015). Sadly, while Kenya retains high literacy rates and impressive university completion statistics, it ranks frightfully low on quality of research output worthy of international acclaim and publication (Bellows, 2015). This could be said of several developing countries.

A common suggestion that is raised to tackle the issue of research quality is that Kenyan institutions need to employ and retain graduates with PhDs. In fact, CUE demanded that all lecturers should have PhDs by 2018 as data shows that more than half of 10,350 lecturers have no PhDs (Wanzala, 2016b). This is well within reason because, if well done, the research experience that one obtains from a good PhD process is invaluable and the graduate can continue with important research after the PhD. But what if the graduate starts or continues their academic career in an environment that is not research-intensive? As illustrated, this is the case in developing countries such as Kenya.

With the overall low number of PhD graduates and researchers it follows that the number of women researchers and PhD graduates is also low. Already, it is a well-known

Figure 1: An advertisement for research services at a Street in Nairobi, Kenya

fact that the number of women experts in subjects such as Computer Science is low in comparison to the male experts

in the field. This is why Dr. Anita Borg proposed the "50/50 by 2020" initiative, so that women earning computing degrees would be 50% of the graduates by year 2020. The percentage of Computer Science degrees earned by women, however, is still far from 50% in most countries, and especially in developing countries. For women in Computer Science a little mentoring goes a long way (Sharp, 2015). However, for mentorship to happen there needs to be existing women researchers and faculty working in developing countries who can mentor others.

I propose six suggestions that could be implemented to improve the research quality among students and faculty in institutions in developing countries such as Kenya.

SUGGESTIONS TOWARDS IMPROVEMENT OF RESEARCH CULTURE IN KENYA

i. Hire lecturers who are interested in research

Not all lecturers are interested in conducting research nor have a track record that shows that they can. Sadly, the transformation of institutions has discouraged the need to judiciously vet the hiring of faculty members. Often-times having a Masters' degree and perhaps having taught (not having researched) elsewhere is enough for someone to be hired as a lecturer, with little or no assessment of their research ability or track record.

ii. Demystify the concept of a PhD

A PhD is still seen by many as a gigantic monster with whom a battle the preserve of an elite few. True, attaining a good PhD is not an easy task but I believe that it is important to demystify it nonetheless. First, it is important for mentors and teachers to encourage curiosity of the problems around us. Upon identification of a problem, one can study what others have done and said on the problem. Upon identification that the problem is interesting and significant with existing gaps, one can apply for funding in order to tackle the problem over a period of three to five years. One then needs to apply to be attached to a research laboratory at an academic institution of repute where they can access supervision and resources. The culmination of this work is a PhD.

iii. Allocate research time to faculty

It has been indicated that the rising number of students in institutions of higher learning has led to lecturers being forced to take on bigger workloads, compromising an already shaky quality of learning. In fact, overworked supervisors leads to the deterioration of the quality of postgraduate supervision (Kimani, 2014). As one author asked in his article: Kenyan universities hardly do any research – who has the time? (Franceschi, 2015). If institutions prioritize research then faculty members could be allocated dedicated hours for research. Be that as it may, a good number of lecturers hold two or three part-time teaching jobs at other institutions. Such a lecturer will not have time to create a school of thought, to seek grants or to dedicate any time or energy to such a demanding activity as research (Franceschi, 2015).

iv. PhD research areas should be within the context of developing countries

Developing countries are mostly resource-constrained environments that present many opportunities for research. However, some of the existing PhD programs in African countries are dominated by the traditional PhD models of the UK and the US (Negash, Anteneh, & Watson, 2012). Even if a student pursues a PhD in universities outside Kenya, the contribution to a solution that solves a local problem could directly contribute to local research.

v. Implement quality checks

Most Kenyan universities do not run anti-plagiarism checks on research projects. External examiners find rampant copying and cases where others are paid to write one's research project, even among doctoral theses (Bellows, 2015). As the example in Figure 1 illustrates, the fact that such businesses are thriving shows that someone is using them.

vi. Research Grants

One factor that hinders academics from developing countries to pursue PhDs or conduct research is lack of funds. Most institutions do not have (or allocate) enough research funds to support their faculty to pursue PhDs, conduct research or attend conferences. Further, even when enrolled in a PhD program, students have difficulty in concentrating on the research as they have to combine it with employment that pays for the PhD (ACUP, 2012). For this reason, obtaining the qualifications takes longer or can mean students abandon their PhD studies. From my own experience, it is easier to find opportunities for funding, especially in Computer Science, through international organizations than through local organizations. However, I have found that most students and faculty members are not aware of the funding opportunities that they could apply for. Thus, it is imperative that those who have been exposed to networks and information for funding share this information with their colleagues. For example, one approach that I am taking in my department is organizing sessions where I could make presentations to students and faculty on opportunities for funding.

CONCLUSION

The ability to perform, commission, measure and manage research and development is an important facet of economic competitiveness and national development (Njuguna & Itegi, 2013; Unesco, 2010). The suggestions given here are far from exhaustive. Indeed, the challenges of research in

Africa are not purely academic (Njuguna & Itegi, 2013). Governments also play a role in the allocation of research funds and implementation and management of research policies. This presentation is an invitation for researchers and faculty attending GHC to get involved in the discussion of how the quality of research could be improved in institutions in developing countries.

PARTICIPATION STATEMENT

I will attend the conference if the proposal for presentation is accepted.

BIO

I graduated in December 2015 with a PhD in Computer Science from the University of Cape Town. I hold an MSc in Computer Science from the University of Oxford. Currently I am a faculty member at Kenya Methodist University. My PhD research topic was in supporting learners in resource-constrained environments to learn programing using their mobile phones. From my PhD work, I have published and presented five papers in international peer-reviewed conferences. I have also presented several posters at international symposiums including the Grace Hopper Conference in 2014. I have received several awards including the Google Anita Borg (EMEA) award in 2014 and the Schlumberger Faculty for the Future award in 2015. In 2015 I was one of 200 young researchers worldwide in Mathematics and Computer Science to be selected to attend and participate in the Heidelberg Laureate Forum. I have also participated in several mentorship activities to encourage and mentor women in Computer Science.

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