



Managing Change at Universities

Volume III

edited by
Bassey Edem Antia, Peter Mayer, Marc Wilde

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Preface

Tertiary education needs people who are able to steer the affairs of universities and their organizational units wisely. It needs people who understand what is possible. They need to have an understanding of the state of the art in higher education management. They should know what works in other parts of the world, and they should be in a position to reflect on what can be adopted, and what not. It needs experts who can push the frontiers of traditional thinking and still take people on the path towards change. The leaders need know-how, and they need skills in order to convince people to join them on their path towards quality. Leaders need networks which help them to be strong, have the kind of resilience needed in leading tertiary education institutions. It is this tradition of bringing people together who are keen on improvements within organizations by reflecting on best practices, who are interested in sharing experiences of change processes, who are ready to be part of a community of practice, which motivated the German Deutscher Akademischer Austauschdienst (DAAD), the German Rectors Conference (HRK), the German Centre for Higher Education Management (CHE), the Alexander von Humboldt-Foundation (AvH) and the University of Applied Sciences (UAS) Osnabrück to organize training for deans from Africa and Asia. An innovative programme was started in 2007, and has continued ever since (see www.international-deans-course.de). By now more than 300 experts from Africa and Asia have participated in the International Deans' Course (IDC) and now form a strong group of alumni of this training programme.

The contributions in this book are outcomes of projects which were extensively discussed within the IDC programmes run in 2016–17 and 2017–2018. They show how participants of this high-level training in different places in Europe, Africa and Asia work on change projects.

The editors of this volume like to thank the authors of the articles for contributing to this publication. The publication of such change processes allows a wider audience to learn from this experience. The articles can serve as tool box for change, they can inspire leaders to move ahead, and they can serve as proof that change is possible. The editors would like to thank the German Ministry for Economic Cooperation and Development (BMZ) for funding this project. The collaborative efforts of the German organizations DAAD, HRK, AvH, CHE and UAS Osnabrück is highly appreciated. The project would not have been possible without the collaboration of experts from six universities in Africa and Asia: the Addis Ababa University in Ethiopia, Centro Escolar University Malolos in the Philippines, Gadjah Mada University in Indonesia, Multimedia University in Malaysia, Taita Taveta University in Kenya, and the University of Western Cape in South Africa. This list shows that the International Deans' Course and this book are the outcomes of an intensive collaboration. It can be a showcase for change processes in higher education institutions. They require individual efforts, vision and endurance, but at the end can be successful only when they

are realized by teams, by many experts who share a vision, by many who accept that the path can be difficult but is worth the effort. The Latin phrase captures this reality: *Per aspera ad astra*.

March 2019

Bassey E. Antia, Peter Mayer and Marc Wilde

Innovative, Dynamic and Cooperative – 10 years of the International Deans' Course Africa/Southeast Asia

MARC WILDE AND TOBIAS WOLF

Within the framework of the programme “Dialogue on Innovative Higher Education Strategies” (DIES), the German Academic Exchange Service (DAAD) and the German Rectors' Conference (HRK) have jointly designed the International Deans' Course (IDC), a training for newly elected deans and vice-deans from Africa and Southeast Asia. The course has been developed in close collaboration with the University of Applied Sciences (UAS) Osnabrück, the Centre for Higher Education Management (CHE), the Alexander von Humboldt Foundation (AvH) and selected partner universities in Asia and Africa. After ten years of implementation, an external evaluation has been carried out in order to independently assess the relevance and impact of the course and to identify areas for further improvement and learning. Based on the evaluation's positive results DAAD and HRK have renewed their commitment to support this commendable initiative which can be considered as one of the DIES flagship projects. In addition, the partners of the IDC have received valuable inputs and recommendations which will help them to further adjust the course to the needs of the target group and to stay tuned with current changes and developments in higher education management.

Process and results of the evaluation are at the centre of this article, at the same time it provides answers to the following questions:

- What is the mission of the DAAD and what were the driving factors that have led to establishing DIES?
- What does the current DIES training course portfolio look like, and what are common features?
- What makes the IDC special and what are its factors of success?
- What are the most important results of the IDC evaluation, and which consequences can be derived?
- What are perspectives of further developing the DIES programme?

Background and driving forces

The DAAD is a joint organisation of German institutions of higher education and their student bodies, devoted to internationalising the academic and scientific research system. With its broad range of scholarship programmes, the DAAD enables

students, researchers and university lecturers to take advantage of the best study and research opportunities. Since it was founded in 1925, around two million scholars in Germany and abroad have received DAAD funding. Yet, its activities go far beyond simply awarding grants and scholarships. The DAAD supports the internationalisation of German universities, promotes German studies and the German language abroad, advises decision makers on matters of cultural, education and development policy and assists developing countries in establishing effective universities by means of special programmes

One of these programmes in the area of development cooperation is the DIES programme which has been jointly developed and coordinated by the DAAD and the HRK since 2001. The aim of DIES is strengthening capacities in higher education management, both on individual and institutional level. It offers a wide range of tailored activities – training courses, dialogue events and university partnerships – that foster the competences of academic staff and contribute to the enhancement of institutional management at universities in developing countries. DIES focuses on three key partner regions: Africa, Spanish-speaking Latin America and Southeast Asia.

Although the following factors take sometimes different forms in different regions, massification, limited public resources and increased competition can be seen as main driving forces that affect universities and require institutional response. To effectively address the challenges stated above strategic management has become increasingly important – not only for the university as a whole but also for its departments and faculties. Against this backdrop the DIES programme has been developed with the idea of providing up-to-date knowledge and training in the field of higher education management. Funding is provided by the German Ministry for Economic Cooperation and Development (BMZ).

Portfolio and common features of DIES training courses

Apart from the International Deans' Course (IDC), DIES currently offers the following training opportunities for different target groups of higher education professionals and university managers from developing countries:

Proposal Writing for Research Grants (ProGRANT): This training course targets young and upcoming researchers and aims at improving their proposal writing skills in order to design, write and budget competitive proposals for national and international research funding.

UNILEAD: The cross-regional University Leadership and Management Training Programme addresses young management-level professionals of central university management departments and imparts generic skills such as project management and human resources management.

Management of Internationalisation: This training course supports university managers from Africa, Asia and Latin America in professionalising the management of the central tasks of their international offices.

Doctoral Supervisor Course: This recently developed course consists of various modules that foster the competencies of doctoral supervisors to enhance the quality of doctoral education in African universities. It is the only DIES course which is offered purely online.

There are some key characteristics DIES courses have in common: They offer modular, practice-oriented training opportunities and in general make use of blended-learning methodology. They bring together participants from different countries, thus follow the principle of intercultural dialogue. They facilitate professional exchange among peers and with international trainers on eye-level and rely on an atmosphere of openness and trust. All this also applies to the IDC – a special intense training course designed for newly elected deans' and vice-deans dealing with the various aspects of faculty management.

In 2007, the IDC was established as a joint endeavour by the DAAD and the HRK, UAS Osnabrück, the CHE, AvH and with counterparts in Africa and Asia. The partners believed that opportunities for professional training in the field of faculty management were rare and that the role of deans has increasingly become important. In view of the fact that in many countries decentralisation has not only taken place between the state and the universities but furthermore trickled down within the governance systems of universities, deans and heads of department had gained more power. In consequence, skills on how to run a faculty in an entrepreneurial manner became more important as well, not only in order to keep pace with other universities but also to allow competing with neighbouring faculties in the same institution. Despite this overall trend, it was also found that deans have to deal with quite different challenges in different regions.

Against this backdrop the IDC is conducted on an annual basis, alternately in Africa and Southeast Asia. Due to the success of the IDC and the high demand for such a training opportunity in Latin America, a similar course was launched some years later in 2012. The so called "International Deans' Course Latin America" is jointly coordinated by the University of the Saarland, Germany, and the University of Alicante (Spain).

Irrespective of its regional variations, the main focus of the IDC is to deliver up-to-date theoretical knowledge in various areas of faculty management: strategic management, financial management, quality assurance, internationalisation, research management and human resources management. Furthermore, the participants take part in soft-skills workshops on change management, conflict management and leadership. It is important to note that the IDC is designed as a programme which aims at turning theory into practice: All participants develop Individual Reform Projects (the so-called Project Action Plans or PAP's) which are implemented in between the three phases of presence of the course. This key didactical concept is meant to stimulate reforms at the various universities where participants come from and to increase the impact of the course at institutional level.

IDC evaluation – methodology and key results

The year 2017 marked the tenth anniversary of the IDC Africa/Southeast Asia. Over these ten years nearly 300 deans and vice-deans from Africa and from Southeast Asia have been equipped with new skills and competencies and all of them have initiated change projects at their universities. Many of the alumni are still in contact with each other, and many of them have committed themselves to passing on their knowledge and sharing experiences with their colleagues on site.

As the first regularly implemented and longest running DIES training course the IDC can rightfully be considered as a DIES flagship project. After ten IDC cohorts have successfully completed the course DAAD and HRK decided to commission an evaluation to get deeper insights into the results of the IDC and a better understanding of its strengths and potential areas of improvement. The evaluation was conducted from February to September 2017 by SYSPONS – a German agency with vast international experiences in evaluating development cooperation projects in the field of higher education.

The evaluation results are based on different sources:

- Data analysis (including the participants' surveys carried out by CHE for each cohort),
- In-depth interviews with representatives of DAAD, HRK, the University of Applied Sciences Osnabrück and the CHE
- Online survey of the IDC alumni and
- Case studies.

The online survey was open to all 286 IDC alumni of which 119 participated, translating into a comparatively high response rate of 42 %. Two case studies were conducted in Kenya and in Indonesia where a total of 46 semi-structured interviews with different IDC stakeholders were carried out. The results of these various surveys were pooled together ("triangulation") and analysed through two different analytical approaches.

Furthermore, the theory of change of the DIES programme was used as a point of reference. It differentiates five levels on which the IDC operates:

1. Inputs (material and immaterial resources used for the implementation of the course)
2. Activities (measures implemented by using the Inputs)
3. Outputs (created technical capacities and personal competences and skills)
4. Outcomes (direct short- and medium-term intended effects)
5. Impacts (Indirect long-term-effects)

The theory of change was developed as part of the impact-oriented monitoring system which was implemented for all DAAD projects funded by the Federal Ministry of Economic Cooperation and Development (BMZ) including the DIES programme. Impact-oriented monitoring is one of the key instruments used for assessing the on-

going progress of DAAD programmes, thus focussing on the output- and outcome level. However, an even more comprehensive approach is needed in order to gain a deeper understanding on the long-term effects of a project during an evaluation.

Thus, the evaluators of the IDC taking the theory of change as a point of departure looked at the IDC from different angles assessing different key factors like relevance, effectiveness, efficiency, impact and sustainability.

The overall results of the evaluation were of a very positive nature. The IDC is apparently a relevant and effective training course that addresses the different needs of both target regions (Africa and Southeast Asia) and successfully equips the participating deans and vice-deans with relevant competences and soft-skills. The results of the online survey show that 99 % of the surveyed alumni believe that university managers from their region need to be trained in the fields of strategic faculty management and university governance. Furthermore, the IDC succeeds in initiating sustainable organisational changes in the participants' faculties and departments.

The evaluation also highlighted the well-functioning and effective processes of the IDC by means of an organisational model of shared-responsibilities. The application procedure is well-established and the course design and the group size (30 participants) are viewed as adequate. The IDC applies innovative and varied didactical methods such as the PAP and peer consulting. The survey showed that 86 % of IDC alumni have implemented their individual reform projects successfully, thus the PAP is instrumental for initiating change processes at the participants' home universities. These changes are most pronounced at the faculty and department level. Depending on the scope of the projects they sometime effect on policies or processes of the whole institution as well. In one of the case studies the evaluators even found evidence that changes can be achieved at the higher education system level, too. For example, in Indonesia one alumnus after having obtained a decision-making position at the ministry of higher education used the PAP approach to implement a reform project which addressed all public Indonesian universities.

The crucial role of local trainers which are helpful in contextualising and adapting the taught contents to the participants needs has been highlighted as well. They received excellent ratings from the surveyed alumni, highlighting their professional expertise and competence (5.4 from 6) and their responsiveness to the different settings of the participants' home environments (5.28 from 6). Participants in the case studies also emphasised the high motivation and commitment to the IDC as the key ingredient differentiating average trainers from particularly good trainers.

Nonetheless, the evaluation also identified some areas of improvement and threats. It was noted that the IDC mainly reaches deans from target countries with more developed higher education systems who are located in the capitals. This could be interpreted as catering for a rather privileged target group. It was phrased as an open question whether the IDC should continue to mainly reach participants from countries with more developed higher education systems or whether the communication strategy and selection process should be adapted to focus more on universities

in least developed countries or in remote areas with challenging conditions of managing an institution.

Besides that, even if a large number of women have been reached through the IDC, the results of the evaluation indicate that their particular needs as female deans were not being specifically addressed by the modules of the course. Concerning the career development after completion of the IDC, women tend to more often stay in the same positions or occupy positions on a lower hierarchical level than male participants. This difference, in the opinion of the evaluators, shows that women would need specific soft skills to cope with structural barriers at higher education institutions that prevent them from getting access to leadership positions.

Furthermore, although the trainers have received excellent ratings in the survey, their guidance and mentoring for implementing the participants' change projects could be processed in a more structured way. Besides that, the evaluators concluded that even though the multiplication of knowledge through IDC alumni works quite well, more incentives could be offered in that respect to further increase the impact of the course.

After receiving the final evaluation report the IDC Steering Committee consisting of representatives of DAAD, HRK, University of Applied Sciences Osnabrück and CHE met to discuss the recommendations and possible consequences for the IDC. To follow-up the evaluation the following decisions were taken:

- Not to change the recruitment process in favour of candidates from less developed countries or rural areas but to keep on inviting participants based on the quality of applications. Nevertheless, the selection committee must pay attention that for each cohort a good mix of different countries, institutional profiles and fair gender representation is ensured.
- To integrate a new module on diversity management into the course design to better address the needs of female IDC participants.
- To organise a workshop on didactics for key regional and European trainers of DIES training courses to discuss how the mentoring process of participants with regards to the implementation of their reform projects can be improved.

Recent trends – digitalisation, upscaling and multiplication

Over its ten years of duration the International Deans' Course has steadily evolved. In a dynamic process, new modules have been developed such as the conflict management or the diversity module, new didactical approaches have been applied and further innovations will follow with each new edition.

The "Dialogue on Innovative Higher Education Strategies" programme is innovative by nature as it keeps abreast of recent developments and facilitates cross-regional dialogue on higher education reform topics on a regular basis. Some recent topics that are important in the context of capacity development and development co-operation are related to digitalisation in higher education and to the question of how

impact of projects can be increased. (Cf. State of Play: Higher Education Management Training Schemes in the Field of Development Cooperation, CIHE Perspectives No. 7). Identifying mechanisms which allow creating effects beyond the increase of individual competences has been a key concern of DAAD and HRK right from the beginning. Backed up by the results of different evaluations, the PAP approach has been very instrumental in view of stimulating reforms and organisational change at university level. Yet, due to the limited number of one cohort and the (cross-) regional format of DIES courses the impact at national level remains relatively low. Therefore, DIES came up with a complementary scheme which offers to alumni of DIES courses the opportunity to conduct multiplication workshops in their home countries. The National Multiplication Training (NMT) programme enables alumni to take responsibility and share their knowledge and competences with peers in their countries. Overwhelming numbers of applicants show the huge demand for NMTs and underline that they play a crucial role for increasing the impact and outreach of DIES training courses.

Talking about one specific aspect of digitalisation making use of online learning can be seen as another mechanism to reach larger target groups. In the context of the DIES programme digital tools are considered as a means to an end. Digital elements like webinars or online-based learning platforms are already part of most DIES training courses. The provision of webinars, learning videos or online assignments might enhance the learning experience but need to be adapted carefully to the respective target groups in developing countries. Nonetheless, for specific topics and reasons even completely online-based courses might be adequate. Hence, in 2018 – responding to the high demand for quality doctoral education in Africa – DIES has launched its first training which is offered fully online. Coordinated by the Centre for Research on Evaluation, Science and Technology (CREST) at University of Stellenbosch, South Africa this course offers to (especially novice) doctoral supervisors at African Universities the opportunity to participate in a two-month training consisting of six modules dealing with the standards of a doctoral degree, roles and responsibilities of a supervisor, or supervisory models and styles. The number of applicants and the results of the first cohorts prove that demand is high and that the drop-out rate is encouragingly low. 81 % of the participants successfully completed the course. Yet, these results are only possible due to professional support structures, technical guidance and a well elaborated and resource intensive mentoring system.

Upscaling of training courses through digitalisation is possible and can increase the impact without investing in mobility. Yet, the philosophy behind the “regular” DIES training courses to transfer knowledge and competences through a practice-oriented approach based on intercultural dialogue is still valid. The evaluation of the IDC and personal experience show that digital elements, especially during the intermediate phases, can be valuable additions to the course, but that personal contact and exchange among the participants, trainers and experts during the presence phases is key to create an open atmosphere for discussions. Telling from own experiences, sharing success stories or admitting mistakes which turned out to be critical

incidents in one's career as university manager are powerful tools for effective learning but require trust, personal relationships and situations where informal communication can take place.

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The International Deans' Course (Africa): Responding to the Challenges and Opportunities of Expansion in the African University Landscape

BASSEY E. ANTIA

Introduction

Expansion in the university sector in parts of sub-Saharan Africa, Southeast Asia and Latin America is a subject about which the different organizing teams of the International Deans' Course are reminded every other year when applications into the program are being processed, or when presentations for a new cohort are being prepared by the course faculty. Every two years, from one applicant recruitment cycle to another, new universities are seen to have been founded. Research by course faculty to determine the number of universities in a particular country or sub-region becomes outdated by the time of presentation – with participants from the concerned countries or regions often reporting that, in the three or so days they have been away from home attending the course, a number of new universities have been established.

For sub-Saharan Africa in particular, this expansion contextualizes the rationales and achievements of the International Deans' Course (IDC) which clocked ten years in 2017. In subsequent sections, I provide some insight into an expanding university landscape in Africa, describe the IDC as a means of responding to some of the effects of expansion, document some achievements of the IDC, and conclude with a brief account of lessons and challenges. I write both as an alumnus of the first cohort (2007/8) of the course and as faculty since 2010.

Glimpses into an expanding university landscape in Africa

Around independence in 1960, Cameroon had 1 university; by 2017 there were 120-odd university-type institutions, of which only 8 were public/state-owned (Folpack 2016). In the immediate post-independence years, Ghana had 3; by 2017 the number had risen to 101, with 10 of these being public. Similarly, within two years of becoming independent in 1960, Nigeria had 5 universities; by 2017, the figure stood at around 153, with about 84 being public (Antia 2017). Between the 1970 establishment date of independent Kenya's first university (Nairobi) and 2017, some 70 universities

and accredited colleges were established (Onyango 2017, Mulinge et al. 2017). Specifically, between 2012–2013 alone, 15 fully chartered public universities were established in that country (Kiamba 2015). Ethiopia established 23 universities within eight years from 2004–2012, putting the figure of the country's universities (both public and private) at about 32 in 2017 (Abebe 2017; see also Mohamedbhai 2014). Needless to say, these figures have since changed.

Between 1970–2013, sub-Saharan Africa's gross enrollment ratio was the lowest of all world regions, because of the few students (less than 400, 000) in higher education in 1970. However, the region has within this 43-year period recorded the highest annual growth rate of 4.3 % – compared to the global average of 2.8 % (Darvas et al. 2017). The expansion in the sector is obviously a consequence of the massification of the demand for (differentiated) university education; in other words, the demand is not only for traditional types of research, elite-type universities, but also for new models or designs of university education.

There are a number of factors contributing to this demand: the massive investments in and enhanced access to primary and secondary education in the 1990s – graduates of which now seek especially university education (Mohamedbhai 2008, Bloom et al. 2005); a shift in the thinking around the nexus of education and development, resulting in greater importance being accorded to higher education than previously (World Bank 2002); increased role for the manufacturing and service sectors in economic development for which a knowledge-based workforce is required (Darvas et al. 2017); an increased labor market appetite for and consumption of university certification (Boateng & Ofori-Sarpong 2002); the introduction of non-traditional entry requirements, including different admission score thresholds, recognition of prior learning, remedial, bridging or foundation courses (Mulinge et al. 2017); flexible methods of delivering the curriculum, such as open and distance education (Altbach 2017); among others.

It was seen earlier that the private sector had the majority share (in terms of institutions rather than student numbers) in the provision of tertiary education in several countries. For this sector, growth has not only been driven by the foregoing demand factors, but by perceptions such as the following: that their program offerings enhance the market solvency of graduates (because these programs are informed by industry needs); that their processes are more efficient because the institutions are much smaller; that they are largely immune from state meddlesomeness; that they have stable (that is, undisrupted) academic calendars and offer students and their families a measure of time-to-degree certainty (since they have generally not experienced the extended periods of closure that have come to typify public universities in many countries); that their campuses allow for the inculcation of values (e. g. faith-based, moral, entrepreneurial) cherished by proprietors, families and other stakeholders; among others.

To return to public institutions, regrettably, expansion has not necessarily been matched by adequate funding. Concerns to address funding in African higher education (e. g. Okebukola (ed.) 2015) suggest that perhaps change for the better in financ-

ing (if any) has not been substantial since a 2010 World Bank report on financing higher education in Africa (World Bank 2010). Among others, the report presented the ratio between the change in the number of higher education students and the quantum of public resources allocated to current expenditure on higher education in select African countries for the period 1991–2006. See Figure 1.

In Figure 1, a number above 1 on the Y-axis shows the margin by which student numbers have increased over the increase in public resources. Concerns around disparities in funding begin to manifest with Ethiopia in the first set of countries, and this worsens progressively as we move to the second and third group of countries. Already in 2006, the increase in public resources allocated to higher education in the current expenditure of Mali was sevenfold less than the increase in student numbers.

Undoubtedly, expansion especially in the public university system has widened access for population segments beyond the traditional socio-economic status groups, age brackets, urban clientele, etc. However, without commensurate funding (and adequate planning), expansion has also led to anomalies in many national university landscapes. Firstly, an existing pool of lecturing staff, which in the past would have reproduced itself organically to service a university system of a planned-for size, suddenly has to support an enlarged system. Corollaries of this state of affairs include unsatisfactory staff/student ratios, teaching staff without PhDs, the use of part-time lecturers and the institutionalization of moonlighting, increased teaching and administrative load of staff, concerns around students' success rates, erosion of a research culture in those institutions that previously had it and the difficulty of developing such a culture in new institutions which have such aspirations (Reizberg & Rumbley 2010, Mohamedbhai 2014, Darvas et al. 2017).

Secondly, infrastructure to support core functions in teaching and learning as well as research has come under strain. Lecture venues, libraries, laboratories, residences and sanitary facilities sometimes now have to support "four times the number of students they were designed for" (Mohamedbhai 2014: 72). Okebukola reports on the findings of a 2012 survey of Nigerian universities commissioned by the national government. Among others, the survey showed that "many laboratories and workshops are old with inappropriate furnishing; [...] equipment and consumables are absent, inadequate or outdated; kerosene stoves used as Bunsen burners in some laboratories [...]; science-based faculties are running 'dry lab' for lack of reagents and tools to conduct physical/real experiments" (Okebukola 2015: 58).

Thirdly, expansion has also led to a thinning out of available management capacity and a consequent dearth of expertise to steer universities at a time when such management expertise is perhaps most needed. As far back as 2004, Tefera & Altbach had already noted that "By and large ... African universities suffer from poor, inefficient, and highly bureaucratic management systems" (2004: 31).

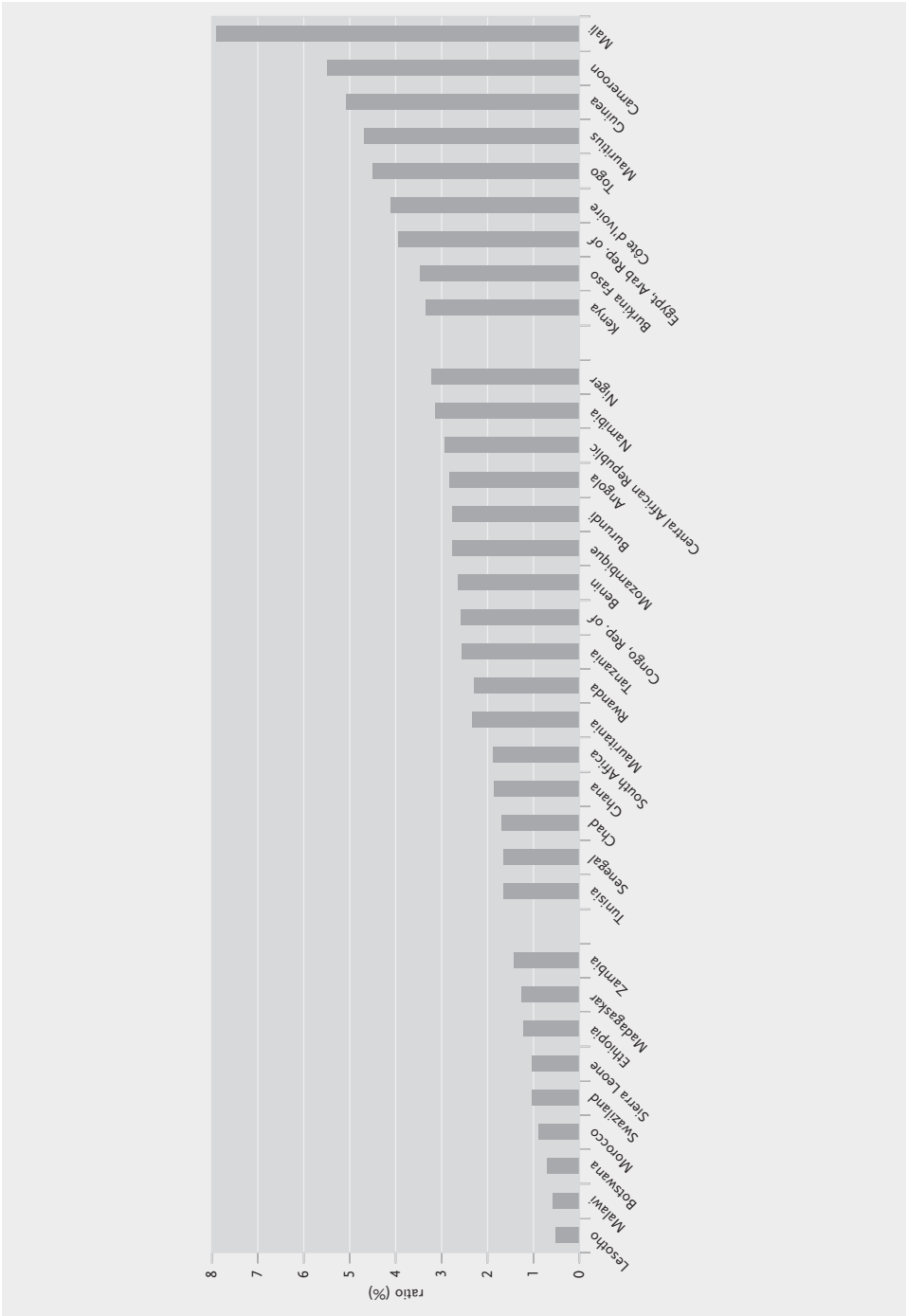


Figure 1: Relationship between growth in student numbers and available resources (Source: World Bank 2010: 19)

Classic management functions (of planning, organizing, staffing, directing, coordinating, reporting and budgeting) obviously become only more complex with reduced funding, huge student numbers from more diversified backgrounds, new stakeholder groups, changing operating/policy environments – all occasioned by the subsequent, bigger wave of expansion. Paradoxically, while universities have always been keen to train and certify individuals for roles out there in society, they have traditionally not attended to developing capacity for managing their own internal processes. Expansion and the concomitant competition for funding, regulatory approval of programs, visibility, students (prized for their fee-paying ability, talent, etc.), and so on, have revealed just how much of an oversight the neglect of course offerings in university governance was.

Enter the International Deans' Course (Africa)

It is against the backdrop of the foregoing that the International Deans' Course was conceived. Begun in 2007, the African IDC is one in a wider bouquet of response initiatives to the challenges and opportunities of expansion in the university sector. In one or the other of its characteristics (e. g. the scope of issues addressed, in-class and out-of-class learning sites, duration or length of time spent by each cohort, project action plan that needs to be implemented by participants, the mentoring arrangements, number of contact sessions, institutional roles of participants, the mix of participants, spread of partners and mix of experiences, etc.), the IDC would seem to differ from a number of comparable initiatives that either address a single theme (e. g. research capacity or quality teaching); are advisory in nature (e. g. on setting up quality assurance units); unfold as a once-off experience at a two- or three-day workshop; etc.

Developed, in part, on the experience of running a Master of Business Administration (MBA) in Higher Education Management at the University of Applied Sciences Osnabrueck, Germany, the African (and Southeast Asian) IDC is a multifaceted capacity-building program to which further expertise is contributed by several other actors: Germany's think tank on higher education (the Centre for Higher Education, CHE), the German Rectors' Conference (HRK), the German Academic Exchange Service (DAAD), the Alexander von Humboldt Foundation, and the Free University of Berlin. The specifically African stream has trainers from universities in Ethiopia (Addis Ababa), Kenya (Taita Taveta) and South Africa (Western Cape).

Over an eight-month period involving three face-to-face contact sessions at different African and German locations, some 30 or so Deans, Deputy Deans, Heads of Department from 8–10 countries in sub-Saharan Africa are exposed to a curriculum that covers topics in: higher education systems (in Germany, Europe and Africa), changing nature of university governance, strategic faculty management, leadership, quality management, financial management, change management, human resources management, teaching and learning, research management, fund-raising, interna-

tionalization, the entrepreneurial university, soft skills, among others. Site visits to units at several universities are an integral part of the training – one which affords participants the opportunity to appraise/critique theoretical insights received in class-like settings. Participants also engage in a number of role-playing activities in the context of peer consulting sessions.

A critical component of the course is the project action plan in which participants apply insights learnt to the conceptualization, design and implementation of a project that adds value to their home institutions (sample projects in Textbox 1 below). Participants are assigned mentors from within the training team, and are expected to provide periodic reports as well as a final report at the last contact session which is usually held in Addis Ababa. The IDC curriculum is, thus, a fairly rounded one that seeks to equip participants with the knowledge, tools and experiences to respond to challenges and opportunities in their operating environments.

The choice of participating countries (admittedly only from among states that have English as official language) reflects, in the main, environments in which expansion of the university sector has been rather remarkable: Ghana, Nigeria, Cameroon, Ethiopia, Kenya, Tanzania, Uganda and Sudan. Malawi has participated intermittently, and both Rwanda and South Africa have participated once, in the very first course. The manner in which the course has responded to several of the challenges and opportunities of expansion can be gleaned in the subject matter of participants' project action plans. Textbox 1 gives a sense of the over 140 projects (between 2007–2017) undertaken by African participants.

Textbox 1: Sample project action plans for IDC Africa (2007–2017)

1. Strategic Plans for Effective Teaching and Management of Large Classes in Redeemer's University
2. Developing an Induction Programme for New Academic staff for Quality Teaching at Kenyatta University
3. Building a Quality Blended E-learning System at the Graduate School in Ghana Technology University College, Accra
4. Introduction of e-learning platform (ELP) for the Faculty of Pharmaceutical Sciences, Nnamdi Azikiwe University (UNIZIK), Awka
5. Developing and Implementing a Quality Management Strategy for Teaching and Learning at Taita Taveta University College
6. Establishment of a Common Laboratory at the Faculty of Chemical and Physical Sciences, Addis Ababa University
7. Towards the Establishment and Operationalization of a Temporary Physics Laboratory at Kibabii University College
8. Five-Year Research Laboratory Development Roadmap for the College of Natural and Computational Sciences, Haramaya University
9. Five-Year Staff Development Plan for the Faculty of Medicine at Gulu University
10. Strategic Plan for the School of Informatics, University of Dodoma

11. Strategic Plan for the Faculty of Science, Chancellor College, University of Malawi
12. Developing Guidelines for Response to Gender Based Violence at Maseno University
13. Development of a Two-year Strategy Map for the Graduate School (University of Professional Studies, Accra) using the Balance Scorecard Concept
14. Income Generation Strategy for the Faculty of Language Studies, Addis Ababa University
15. Alternative Internally Generated Funds Mechanism at the Nasarawa State University, Keffi
16. Quality Management at School of Pharmacy, Ahfad University
17. Management of student registration process for decision making at Egerton University
18. Developing an Orientation Programme for Newly Appointed HODs in the Faculty of Arts, University of Uyo
19. Faculty Manual for Facilitating Thesis Writing in Science at the University of Ngaoundere
20. A Strategy to Promote Research and Consultancy Culture in the Faculty of Science and Technology – Mzumbe University
21. Building a sustainable research culture at Central Business School, Central University of Ghana
22. Development of a Research Strategy in the Department of Literary and Communication Studies, Laikipia University College
23. Strengthening the Research Capacity of Academics in the Department of Food Science and Engineering at the Faculty of Engineering and Technology, Ladoke Akintola University of Technology, Ogbomosho
24. Introduction of an Annual Research Day in the Faculty of Pharmacy, University of Benin
25. Upgrading the National University of Sudan Research Institute to a Centre of Excellence in Molecular Biology and Bioinformatics

In the pre-expansion era, it was perhaps natural in many environments to assume that the system had taken care of several of the issues in Textbox 1, that is, where the issues even arose. The fact of individual academics having to initiate action on these issues perhaps speaks volumes about the state of affairs in their institutions. From Textbox 1, we see participants keen to address a range of issues in their home environments that are easily linked to system expansion and its consequences: concerns in teaching and learning, including the need for creative ways of developing, equipping and sharing laboratories (1–5); the dearth of attention to other aspects of faculty strategy, especially strategic plans (8–13) and fund-raising (14–15); the neglect of quality matters that enhance the institutional experience for both students and staff (16–19); and the need for (re)creating a research culture (20–25).

Figure 2 presents the distribution of projects according to theme and participant cohort.

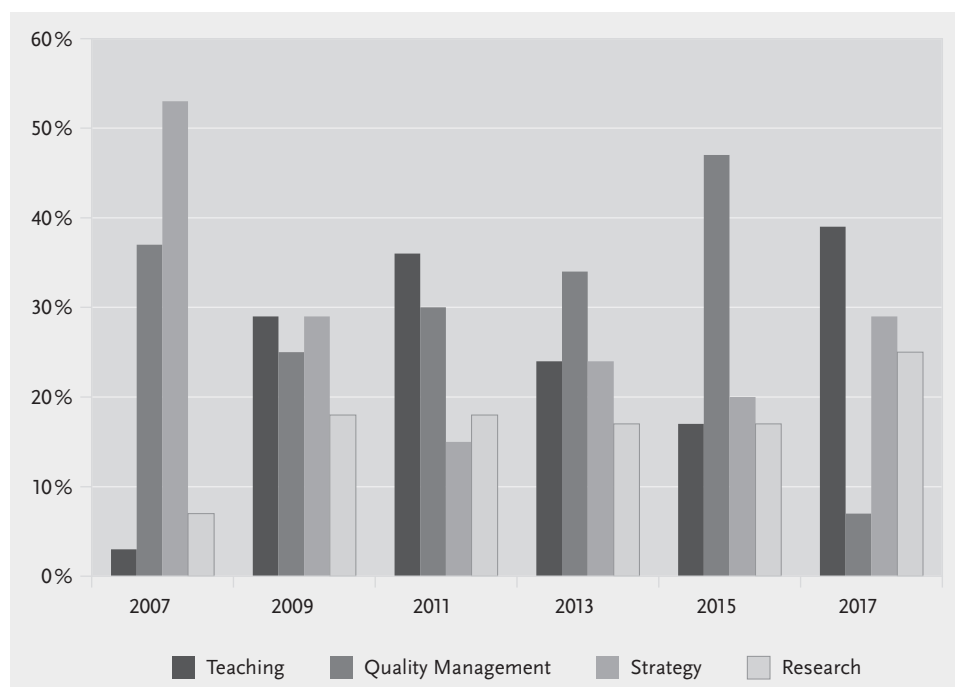


Figure 2: Project action plans per cohort – IDC Africa

It is instructive that a majority of the participants in the very first African cohort in 2007 saw quality management and strategic management as the major concerns in their institutional environments, concerns in respect of which they were prepared to be agents of change. This choice may also have been shaped by the thrust of the curriculum in that very first course, even though it must be stressed that participants independently chose their topics, based on perceived institutional needs, individual capacity, and so on. An inference to be drawn from the pattern of choice of the very first cohort is an overriding concern among participants to improve governance in their respective institutions. Whether the course reminded them of a bygone era of institutional management or simply provided the lens for viewing what needed to be fixed, participants overwhelmingly chose to work on governance issues.

Research and teaching, which were not as prioritized in 2007, have since the 2009 cohort become more important. When the figures are disaggregated by country, teaching elicits a fairly consistent cross-country interest, even though there was initially no module devoted to the subject. As was seen in Textbox 1 presented earlier, responding to the unsatisfactory lecturer/student ratio or to the student/laboratory facility ratio and so on were recurring themes. The picture for research, however,

differs remarkably. For Nigeria, which has traditionally had many Alexander von Humboldt fellows as participants, research has had a rather strong appeal.

Some achievements of the IDC

In the ten years of IDC Africa, there have been over 140 institutional quality improvement projects carried out by IDC participants spread across over 80 universities. Beyond the numbers, chapters of this book (admittedly not all from IDC Africa) give a palpable sense of what a project in the IDC course is like, the vision that drives it, the impact it has, and the knowledge base from which it derives. Participants typically report that the course provides them the lenses to see challenges and opportunities in their institutions, or enables them to put a name to, and a context around, observations they routinely make, but are usually not able to process any further.

It is not only the 140-odd participants of IDC Africa (between 2007–2017) who have benefitted from the course. The second contact phase of the course has often incorporated open sessions which interested persons in the host environment have attended. Alumni of the IDC as well as of other programs under the Dialogue for Innovative Higher Education Strategies (an initiative supported by the German Academic Exchange Service and the German Rectors' Conference) have organized multiplication workshops across the continent. In sum, a critical mass of individuals trained in higher education management is gradually being developed across countries of sub-Saharan Africa, thanks to the IDC. Accepting the inevitability of expansion, it is through trained individuals such as these that the opportunities associated with expansion in the university system may well be leveraged and the otherwise negative effects mitigated.

Apart from those who attended the IDC while they were already Deputy Vice-Chancellors, many of the alumni have stepped into important leadership roles in African universities. Without exception, they credit the IDC for the courage they had to apply as well as for their success in the selection process. Thus, among others, the following alumni hold or have recently held executive leadership positions: Hamadi Boga (Vice Chancellor, Taita Taveta University, Voi, Kenya), John Okumu (Deputy Vice Chancellor, Kenyatta University, Kenya), Charles Igwe (Deputy Vice Chancellor, University of Nigeria), Daniel Obeng-Ofori (Pro Vice-Chancellor, University of Energy and Natural Resources, Ghana), Charles Esimone (Deputy Vice Chancellor, Nnamdi Azikiwe University, Awka, Nigeria), Alem Mehbrahtu (Vice President, Addis Ababa University, Ethiopia), Puplampu Bill Buenar (Vice-Chancellor, Central University of Ghana), Peter Barasa (Acting Deputy Principal, Alupe University College, Kenya), Peace Chinedum Babalola (Vice-Chancellor, Chrisland University, Abeokuta, Nigeria), Adeyinka Aderinto (Deputy Vice-Chancellor, University of Ibadan, Nigeria), Joseph Bosire (Acting Vice Chancellor, Masinde Muliro University of Science and Technology, Kenya), late Yudah Ayodo (Deputy Principal, Kaimosi University College, a constituent college of Masinde Muliro University of Science and Technology,

Kenya). Not to be outdone by their mentees, two of the African trainers themselves have moved up: Abebe Dinku (as Vice-President of Addis Ababa University, Ethiopia) and Christine Onyango (as Deputy Vice-Chancellor, Taita Taveta University, Kenya). In private communication with one or the other of these alumni, it has become obvious that they are putting to good use insights obtained from IDC in order to respond to concerns in their environments. One recently spoke about introducing the project action plan concept to her principal officers.

The success of the IDC streams for Africa and Asia has spawned a number of related initiatives, such as the Latin American IDC stream and other capacity-building projects by some of the project's partners, such as workshops addressed to university vice-presidents in Germany, Ethiopia and Kenya.

As the contribution by Wolf and Wilde to this volume indicates, evaluation of the IDC by the Boston College Center for International Education as well as by the SYSPONS agency indicates that the course is addressing a need in a somewhat unique manner.

Conclusion

In commemorating the tenth anniversary of the IDC, this contribution has placed the IDC within the context of developments in African higher education. Specifically, expansion of the university system, which has not everywhere been underpinned by a rational planning model, has seen the system hit quite a bit of turbulence. From this anomalous situation, however, have arisen opportunities such as the IDC to create a generation of disciplinary experts that are also knowledgeable in facets of higher education management.

To reflect briefly on lessons learned and challenges encountered, it has become obvious that incorporating the project action plan (PAP) into the design of the IDC was an excellent idea for a range of reasons. Epistemologically, for participants as much as for faculty, the PAP has turned out to be a means of verifying or reinforcing knowledge of a more theoretical nature shared in the first contact phase; it has sensitized participants and faculty to complementary knowledge required for the success of projects in different environments; the reporting requirement associated with the PAP has seen participants attending to otherwise unnoticed learning experiences; more broadly, though, the PAP and the IDC as a whole have been reported by participants and alumni as catalysts for acquiring additional management knowledge of relevance to higher education.

In terms of the profile of stakeholders, because the PAP is a stimulus for and a means of introducing (beneficial) change in home institutions, it has enhanced the stature and institutional leadership credentials of their implementers. PAP implementers have on occasion been surprised by the quality of support they have received from their principals, or by requests for their projects to be rolled out in other units of the institution. It would seem to have also created positive publicity for the

collective expertise of the German-African team and for this particular German model of development cooperation in the higher education sector (represented here by the DAAD, HRK, CHE, University of Applied Sciences in Osnabrück, AvH and the Freie Universität of Berlin).

A challenge encountered by participants was the very designation of the project to be undertaken. Initially called personal action plan, it created an impression in some institutional environments that the task was simply that of the course participant. Buy-in from colleagues was incredibly difficult. The term was most unfortunate because it in fact negated some of the content that is covered in change management and strategic management that emphasizes team work. The term was promptly changed, with 'project' taking the place of 'personal', making it thus possible to keep the likeable PAP acronym. With this new term, marketing the idea as a collective enterprise has been reported to be easier (especially in light of greater consultation – see below).

It was also realized that, sometimes, the pressure experienced by participants to come up with a topic within the first week of the course did not always allow for optimal decision-making. In the first week, participants are exposed to a barrage of sometimes completely new management information. Admittedly, as part of the application procedure, would-be participants are asked to describe a quality improvement project they would want to embark on as part of the course. Experience has shown that this write-up is frequently more useful for determining how deeply invested applicants are in the university system than for assessing appropriateness (within the IDC context) of project ideas. As a consequence, a lot more flexibility and support have been introduced. There are extended presentations on the PAP concept, including discussing the PAP reporting template. There are discussions of sample PAPs. Even while participants are encouraged to come up with topics especially in week 2 (devoted to site visits in Germany), a final choice is delayed until participants are back to their home institutions and have had a chance to consult and better determine feasibility.

The challenge of time to follow through on the PAP commitment is a real one for individuals who also have a host of other institutional mandates. An attempt to mitigate the effects of this challenge has been made by insisting that participants take on projects that are within their purview or institutional sphere of influence. It is stressed that while a project by definition is a non-routine activity, it is important to take on tasks that are closely aligned to one's core functions. Developing a strategic plan for responding to an issue in research or teaching would be quite consistent with the portfolio of a (sub) Dean in charge of research and teaching, much more than getting the entire institution to embrace a particular novelty. In the past, projects such as the latter turned out to be quite demanding and a qualified success. Although for logistic reasons PAP mentoring is country-based (that is, participants from a given country are assigned a mentor irrespective of topics), encouraging the building of informal clusters of participants working in a given thematic area across

countries has been found to enhance experience-sharing and to sustain commitment.

In sum, the success of the IDC in its first decade has been the result of a number of factors: the underlying vision and its timing (given developments in the African and global higher education landscape); the flexibilities introduced and the alertness of the faculty to change course when things are not working; enthusiastic participants and their supportive institutional managers; a dedicated support staff, a collegial faculty and the goodwill they enjoy from their respective organizations; and of course the DAAD for the financial support.

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Developing a Research Management Strategy for the Faculty of Engineering, Ahmadu Bello University, Zaria, Nigeria

BELLO MUKHTAR

Abstract

One of the cardinal responsibilities of universities is to conduct research, which contributes to the body of knowledge and in some cases translates to process or product development. The latter enhances socio-economic and technological advancement. Over the years, the Faculty of Engineering at the Ahmadu Bello University in Nigeria has made significant contributions to manpower development and capacity building in Northern Nigeria in particular and Nigeria, in general. However, it has a low profile with regard to high-impact research output. One of the main challenges is the lack of an effective research management strategy. In this paper, a research management strategy has been developed for the Faculty in order to help increase its research output and make the research relevant in enhancing socio-economic activities within the institution's catchment areas or surrounding communities, the northern region of Nigeria and the entire country. An environmental scan was done to ascertain the Faculty's strengths (in terms of staff profile, available laboratory facilities, research experience and collaboration), weaknesses, opportunities and threats. It was found that the Faculty has a critical mass of qualified academic staff members and extensive research experience in some specializations. Therefore, five priority research areas were identified and a research management structure developed. The key objectives of the research management structure are to establish a strong research culture, promote inter-disciplinary research that impacts positively on socio-economic activities, enhance collaboration, boost research skills of staff members and, in the long term, create a remarkable research profile for the Faculty.

1 Introduction

1.1 Ahmadu Bello University

From one university in 1948, Nigeria now (in September 2018) has one hundred and sixty-five universities. Of this figure, forty-three are federally owned, forty-seven owned by state governments and seventy-five privately owned (NUC, 2018). Ahmadu Bello University (ABU) was established in October 1962 by the Government of the then Northern Region and was taken over by the Federal Government of Nigeria in

1975, thus becoming a Federal University (ABU, 2018). It is among the five first generation universities in Nigeria and the first in the Northern part of the country. It started with five Faculties (Administration, Agriculture, Arts & Social Sciences, Engineering and Sciences) and 426 students. However, within the fifty-six years of its existence, it has grown to become the largest university in Sub-Saharan Africa. It has a land area of about seven thousand hectares, two campuses, five out-stations, many affiliated colleges, several Institutes, Directorates and Specialized Centres, sixteen Faculties, two Schools (School of Postgraduate Studies and Business School) and one hundred and nine Academic Departments with over five thousand postgraduate degree programmes.

Presently, the University has a population of about forty-three thousand undergraduate and fourteen thousand postgraduate students drawn from different parts of Nigeria and other parts of the world (SPGS Annual Report, 2017). In addition, there are thousands of other students from the affiliated colleges and those pursuing degree programmes via distance learning. It has an academic staff strength of over three thousand five hundred and a non-teaching (researchers, technical, administrative and other supporting staff) staff strength of nine thousand. The vision of the University is to be 'a world-class university comparable to any other, engaged in imparting contemporary knowledge, using high quality facilities and multi-disciplinary approaches, to men and women of all races, as well as generating new ideas and intellectual practices relevant to the needs of its immediate community, Nigeria and the world at large'.

The University has excelled in the area of manpower development, capacity building and has helped to nurture several universities in the Northern part of Nigeria. It has produced over eight hundred thousand graduates at the sub-degree, first degree, postgraduate degree and honorary degree levels – most of whom have held influential administrative and political positions in both the private and public sectors. Its graduates include a former President of the Federal Republic of Nigeria, two former Vice Presidents and several captains of industry. This was well-captured by Galadanci (2012) during the University Convocation Lecture when he wrote that "when one looks at the employees of most public and private organizations, not only in the North, but in the entire country, one can say with certainty that Ahmadu Bello University has been able to adequately fulfill the dream of its founding fathers in the area of manpower development. When one compares Ahmadu Bello University with other Nigerian universities, it comes out with flying colours probably ahead of all others". In addition, the University has produced many prominent personalities at the international level such as Dr. Mansur Mukhtar – Alternate Executive Director, World Bank, Prof. James Adegoke – an award-winning climate scientist and Professor at the University of Missouri-Kansas City, United States, Dr. Mohammad Sanusi Barkindo – Secretary General, Organization of Petroleum Exporting Countries (OPEC), Prof. Elizabeth Odilile Ofili – Professor at the Washington University in St. Louis, physician, cardiology researcher and the first woman to become president of the Association of Black Cardiologists and Prof. Ibrahim Agboola Gambari (for-

mer academic staff), former Under-Secretary General and Head of the Department of Political Affairs, United Nations.

However, in the area of high-impact research output, the University has a low profile. Although there is a lot of research being conducted by the academic staff members, researchers in the various research institutes/centres within the University and thousands of postgraduate students, one of the main challenges is the lack of coordination due to an absence of an effective research management strategy. This hinders achievement of high-impact research output that solves socio-economic challenges and helps in the economic and technological development of its catchment area (immediate communities and the region) and Nigeria, in particular and the world, in general. Recently, the University has established the Centre for Research and Innovation with the mandate to enhance research activities and support innovation. This will hopefully help to advance solution-based research that will resolve some pressing socio-economic and technological challenges within the region and the entire country. In addition, the University research policy is being developed. Part of the policy states that “The ABU Research Policy is a university wide policy and the guidelines should be seen as a framework for sound research practice. The University shall develop portfolios of research that are of regional, national and international relevance and build on the strengths of the University and/or create strengths which the University has identified as a priority. Individual researchers form the backbone of the University’s research system. However, identification of areas of comparative advantage for ABU needs to be undertaken” (ABU, 2018).

As a policy, the University is also making effort to transit to a postgraduate university that will focus on postgraduate training and research. The policy will enable the University to devote more effort in postgraduate training of academic staff from other universities (especially the newly established universities within the region), begin to invest in research in order to achieve substantial research expertise and productivity and establish strong research culture. This will transform the University from a knowledge store to a knowledge factory where knowledge for socio-economic development is generated through intensive research and will bring regional, national and international recognition and attract research funding to the University.

1.2 Faculty of Engineering

The Faculty of Engineering was established in 1962 as one of the pioneering Faculties in the University. It started with three Departments; Civil, Electrical and Mechanical Engineering. However, over the years, it has grown to ten Departments with thirteen first degree programmes, about forty postgraduate degree programmes, over five thousand undergraduate students, about seven hundred and fifty postgraduate students, two hundred and sixty-eight academic staff members and two hundred and sixty-five non-teaching staff (technical and administrative staff). The Faculty has produced about thirty thousand graduates at the first degree and postgraduate degree level. The Faculty has a critical mass of qualified academic staff members, some of whom attended universities in Europe, North America and Russia and were among

the best during their postgraduate training. In addition, there is the Nigerian Journal of Engineering (NJE), which is a publication of the Faculty and for over forty years has been consistently publishing Engineering and Applied Science-based research findings in order to disseminate knowledge generated through research.

Despite all its potential, the Faculty has not been very prominent in terms of research output that addresses the socio-economic and technological challenges within the country. It has also made very little contribution in addressing important global issues. The main factors negatively affecting research include a weak research culture, lack of research management strategy, inadequate facilities and poor funding. Therefore, with the current plan by the Ahmadu Bello University to re-strategize and focus on research, all academic Departments and Faculties need to be on-board and develop an effective research management strategy that will strengthen their research capabilities in-line with the University's policy.

As the Faculty of Engineering is one of the key faculties that the University is looking up to for solution-based and high-impact research output, this study was undertaken in order to develop a research management strategy. The project reported here was undertaken as a Project Action Plan (PAP) for participants in the International Deans' Course (IDC) training organized by the German Academic Exchange Service (DAAD), University of Applied Sciences, Osnabruck, Germany, the Centre for Higher Education, Gutersloh, Germany and other stakeholders. The main objective of the project is to create a research coordination framework in the Faculty for better quality and goal-oriented research output. Key tasks include sensitization of stakeholders, environmental scan, and identification of research priority areas and creation of research management structure.

2 Brief Literature Review

Worldwide, universities are increasingly recognized to have an important role in the economic development of their societies in addition to their traditional roles in teaching and research (Smita and Kimmo, 2005). Over the years, basic and applied research activities at leading universities in the world have helped in solving numerous societal problems and to drive new product development, which in turn gives birth to new companies and thousands additional jobs. For example, in the United States, the roles of the Massachusetts Institute of Technology in growth of the industries in the greater Boston area and of Stanford University in the Silicon Valley area are enormous. In the United Kingdom, Imperial College London (ICL) has produced many spin-off companies within the last ten years. The Faculty of Engineering in the ICL has recorded considerable success commercializing the results of its academic research, which shows its commitment to drive innovation and provide sustainable solutions to global challenges (ICL, 2018). Solution-based research is also key to attracting research funding, which is increasingly becoming highly competitive. For instance, University of Victoria, Canada, has strong research capacities that enabled

it to experience a steep trajectory for research income growth from approximately \$31 million in 2000–01 to \$112 million in 2007–08, and thereafter an annual average of over \$100 million. From 2009 to 2014, funding to the University from the federal research council agencies, government agencies, non-governmental organizations and industry has also grown steadily (UV, 2015). In order to increase funding and share resources for research, collaboration is also increasingly becoming very important. For example, the University of Ibadan, Nigeria, has many research collaborations through signing of Memorandum of Understanding (MoU) with several universities in the United States, United Kingdom, Germany, China and South Africa, which have contributed to its research output success story (UI Annual Report, 2017). Thus, a world-class university should excel both in academic excellence and have a strong research base, which can enhance its bond with the society it serves through solution-based research activities.

3 Methodology

The first phase of this work involved sensitization of stakeholders on the need to have a well-coordinated research management strategy in the Faculty, in particular and the University, in general. Discussions were held with the Deputy Vice Chancellor (Academic), Dean of the Faculty of Engineering, Director, Centre for Research and Innovation, some Heads of Department and staff members. The issue was also raised at different fora within the University especially during the Faculty monthly colloquium to emphasize its importance. The second phase was an environmental scan to ascertain the staff strength, available facilities, on-going research projects and research areas that have received most attention over the years, which the Faculty had developed experience and critical mass. In addition, an analysis to identify the Faculty's strengths, weaknesses, opportunities and threats (SWOT) was carried out. This was intended to enable the Faculty understand the prevailing environment in which it operates and to specifically determine the critical issues that need to be addressed in order to make it more competitive. Therefore, several intervention activities can be initiated to address the challenges identified in the SWOT analysis. Finally, the third phase, which involved identification of priority research areas and development of a research management structure for the Faculty.

4 Findings

4.1 Sensitization of Stakeholders

From the discussions and interactions with the various stakeholders including university administration, deanery, heads of department and staff members, there is an overwhelming desire to see that the Faculty in particular and the University in general, re-strategize and focus on research activities that have the potential to solve so-

cio-economic and technological challenges within the region and the entire country. Thus, every effort towards enhancing research output and management that would benefit the immediate society and the regional and national economy would likely receive maximum support and encouragement. However, some academic staff members are reluctant to key-in to the idea of prioritizing research areas, citing concerns around funding. They argue that there should be research freedom within the Faculty because worldwide, it is recognized that academic freedom to pursue what and how research is conducted is a fundamental principle to building a strong research culture. Therefore, while a strategic research management plan will naturally allocate more resources to the research priority areas identified, it is equally important not to neglect the issue of academic freedom and broader research community. Hence, the Faculty should also plan to invest in other research and innovative areas outside the priority areas for substantial intellectual, technological, social and cultural contributions to its immediate communities, region and the entire country.

4.2 Environmental Scan

4.2.1 Staff Profile

The Faculty is endowed (qualitatively and quantitatively) with academic staff members. In addition, there is a good number of technical and other supporting staff members. However, most of the technical staff members need further training to enable them discharge their job responsibilities effectively. Table 1 gives the distribution of the number of staff members in the various Departments within the Faculty while Figure 1 shows the breakdown of the academic staff members based on their ranks; Professorial cadre (Professors and Associate Professors), Senior Lecturers and Lecturer I and below (Lecturer II and Assistant Lecturers). About 50 % of the academic staff members have obtained the Doctor of Philosophy (Ph.D.) degree.

Table 1: Distribution of staff members in the Faculty

Department	Academic Staff	Technical	Administrative
Agricultural and Bio-resources Engg.	21	54	8
Chemical Engineering	54	31	8
Civil Engineering	36	24	7
Communications Engineering	21	7	4
Computer Engineering	17	4	4
Electrical Engineering	13	16	4
Mechanical Engineering	38	23	8
Metallurgical and Materials Engineering	21	11	3

(Continuing table 1)

Department	Academic Staff	Technical	Administrative
Polymer and Textile Engineering	23	12	8
Water Resources and Environmental Engg.	24	6	11
Dean's Office	--	1	11
Total	268	189	76
Grand Total	533		

As indicated in Figure 1, the academic staff composition is different for the various Departments. For instance, Department of Metallurgical and Materials Engineering has a substantial proportion of senior academic staff members with 67 % staff members on the Professorial cadre and Senior Lecturer ranks. Departments of Agricultural and Bio-resources Engineering and Polymer and Textile Engineering have 52 % staff members on the Professorial cadre rank, which shows higher proportion of senior academic staff members in the two Departments. Departments of Chemical, Civil, and Water Resources and Environmental Engineering have a near-equal distribution between staff members on the Professorial cadre rank and Senior Lecturers on one hand and Lecturer I and below on the other hand. However, there is substantial number of academic staff members on the rank of Lecturer I and below (younger academic staff members) in the Departments of Communications Engineering (67 %), Computer Engineering (76 %), Electrical Engineering (77 %) and Mechanical Engineering (71 %).

Overall, there is a fair distribution of academic staff members on the ranks of Professorial cadre and Senior Lecturers (45 %) and Lecturer I and below (55 %) in the Faculty. Therefore, there is a good mix of the experienced and the young researchers in the Faculty that can help boost quality research output. However, certain important issues need to be considered in order to enhance the effectiveness of the staff members such as research being considered as a workload and factored into staff schedule of duties, continuous training on contemporary research issues and recruitment of academic staff members based on research specialization area and expertise (Antia, 2018).

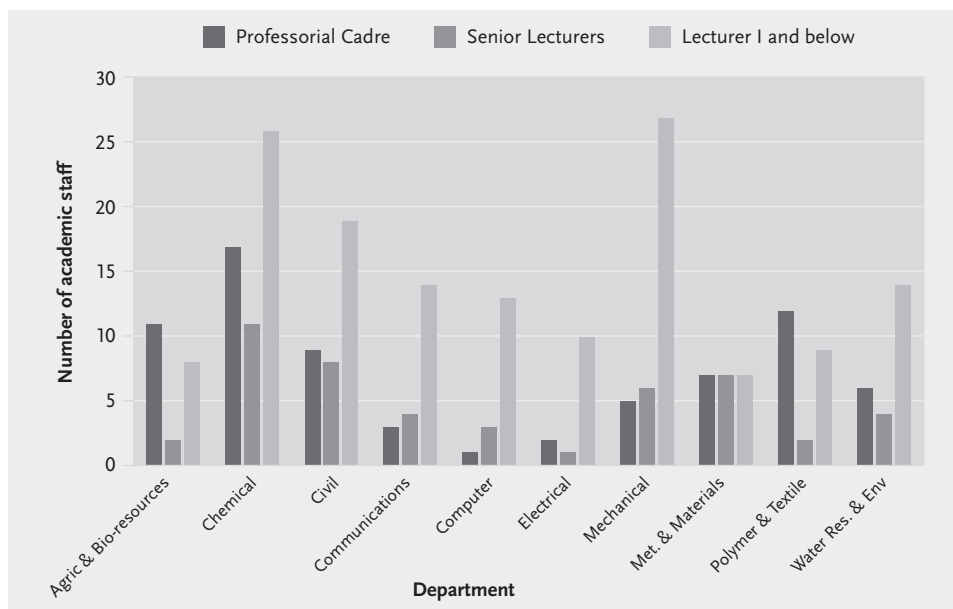


Figure 1: Breakdown of academic staff members on different ranks for the various Departments in the Faculty

4.2.2 Available Research Facilities

There is a reasonable number of simple laboratory apparatus. However, there is paucity of high-tech characterization and testing facilities in the various laboratories within the Faculty. In addition, chemical reagents needed for materials synthesis and testing are mostly unavailable and where available they are largely in insufficient quantities. Table 2 gives a sample list of available equipment in the laboratories within the Faculty.

Availability of laboratory facilities is quite important because it enhances research skills and output in terms of publications (Journal/Conference papers) and patenting of innovative ideas by the academic staff members in the Faculty. This increases the visibility of the Faculty, in particular and the University, in general. In addition, it can significantly contribute to proffer solutions to the numerous regional and national socio-economic and technological challenges.

4.2.3 Interventions to Support Research in the Faculty

Within the last two decades, the Faculty had received support from some public and private organizations aimed at facilitating research activities. These include endowment of two Professorial Chairs: Shell Petroleum Development Company Professorial Chair in the Department of Mechanical Engineering and Petroleum Technology Development Fund (PTDF) Professorial Chair in the Department of Chemical Engineering. The Shell Professorial Chair supports research on corrosion studies of oil and gas facilities while the PTDF Professorial Chair has a mandate to develop zeolite catalysts used for the fluid catalytic cracking (FCC) process in a petroleum refinery.

Currently, all the four petroleum refineries in Nigeria import the zeolite catalysts for the FCC process, which costs the country millions of dollars annually. However, with the endowment of the Chair, significant research success has been recorded with many publications and a patent. It is hoped that the developed catalysts will further be enhanced and commercialized, which will significantly reduce the petroleum refining cost in the country. This type of intervention with specific targeted research outcome is highly desirable because of its potential impact.

Another significant intervention is by the Nigeria Liquefied Natural Gas (NLNG) company that donated \$2 million to the Faculty as part of the company's \$12 million University Support Programme (USP) for six selected universities in the country. The USP scheme was launched in 2014 to help develop engineering education capacity in the country. The money has been used to provide a Multi-user Laboratory in the Faculty, which was commissioned in March 2016. It has six specialized research laboratories, fairly-equipped with materials testing, characterization and environmental analysis facilities. However, more of this kind of support is needed in order to boost research output and enhance its quality.

4.2.4 Faculty Research Profile

In the Faculty's fifty-six years of existence, a lot of research has been conducted by the staff members and students. However, much of this research is largely individual in nature and uncoordinated. Recently, the Faculty introduced a monthly colloquium to acquaint staff members of on-going research activities in the various Departments, to share experience and create research teams. This is aimed at having a coordinated approach towards achieving targeted research outcomes. It is impressive that some Departments within the Faculty have recorded remarkable success over the years though a lot more would have been achieved if there were planned research strategies and proper co-ordination. For example, the Department of Agricultural and Bio-resources Engineering has a mechanization programme with an aim to develop and evaluate appropriate technologies for production and post-harvest operations of the Institute for Agricultural Research (IAR) mandate crops in the North-West Agro-Ecological Zone. The programme has three main sub-programmes to achieve its broad objective, namely; Machinery/Technique Evaluation, Machinery/Technique Development and Machinery Management.

So far, it has made giant strides such as the development of a Maize dehusker sheller with a capacity of ≥ 850 kg/h and a threshing efficiency, cleaning efficiency and grain damage of 99.5 %, 98 % and < 1 %, respectively. In addition, it has developed several other agricultural equipment such as groundnut oil extractor, multi-purpose grinder, crop stalk crusher and multi-crop thresher for threshing of sorghum, millet and soybean. The Department has also been involved in the training of artisans and technicians at local and international level on prototype fabrication and on farm equipment use and maintenance. Similarly, the Department of Mechanical Engineering has developed an eco-friendly energy efficient car. All the materials and components used to manufacture the car were sourced locally (either fabricated or recycled from existing appliances). The car has participated in several exhibitions.

For example, Shell Petroleum Development Company of Nigeria Limited organized a 'Road Show' in Lagos, Nigeria, in March 2015. The car participated and passed all the technical tests including safety, ergonomics, energy efficiency, body and interior design as well as overall weight. Subsequently, the company invited the University to participate in the 'Shell Eco Marathon Competition' in the Netherlands. There is also a team in the Department of Chemical Engineering working on the development of a modular refinery for research and development activities.

In addition, staff members in several departments within the Faculty have conducted research on different aspects of renewable energy. It is clear that there is adequate expertise within the Faculty for further development and application of renewable energy technologies for use in rural and urban areas for domestic, institutional and commercial purposes such as solar crop dryer, solar cookers, solar water heaters, biogas for cooking and heating and biodiesel for use in vehicles and other machineries. If research funding is available, the Faculty can fabricate proto-types of these renewable energy devices, build bio-fuels pilot plants and micro-hydro power plants. The proto-types can then be further developed and manufactured in commercial quantities by private companies. This will significantly contribute in solving the socio-economic challenges especially of the immediate communities. However, all the outstanding research outcomes reported here were conducted by just about 25 % of the academic and technical staff members in the Faculty. This means that more could be achieved if majority of the staff members are actively involved through a deliberate strategy and coordination.

4.2.5 Summary of the SWOT Analysis

4.2.5.1 Strengths

The Faculty has qualified academic staff members. They are mostly young with opportunities to grow and can help energize the research agenda of the Faculty while the highly experienced professors provide the leadership. The Faculty also has many academic staff members with several years of research experience in some specializations. With minimal support to this category of staff, in terms of training for grants proposal writing and collaboration, they can attract research funding. In addition, the number of students being admitted for the various postgraduate degree programmes in the Faculty has recently increased sharply due to the large number of applicants. The postgraduate students can significantly help to boost the Faculty's research output. The Faculty has also produced thousands of graduates, which has placed it at the top not only within the region but in the entire country. This gives the Faculty an advantage to attract support from both public and private organizations.

4.2.5.2 Weaknesses

The Faculty's biggest weakness is lack of a strong research culture. Research activities are mostly individual in nature or being conducted by small research groups at the Departmental level and mostly targeted at publication for promotion. There is no deliberate attempt to emphasize to the staff members that research is part of academic life and in the Engineering discipline it is not only for academic publications

but also a means of solving contemporary socio-economic and technological challenges that brings immediate benefits to the society. There is also the lack of established agenda for mentorship. For instance, in some departments, the young academic staff members are not being properly mentored by the senior and experienced professors on research and ethics; instead they are left to use their own initiatives. This is a threat to transfer of knowledge, sharing of experience and sustainability of high-quality research output. It will also deter development of the next generation of globally recognized professors and researchers. In addition, the new generation of technical staff members that are supposed to manage the laboratories are not adequately trained. This poses a problem of inability of the technical staff members to appropriately operate and maintain the laboratory equipment and assist postgraduate students in conducting laboratory experiments accurately, which compromise the integrity of the data generated and can lead to misleading results. In some cases, there is also politicization of recruitment of both the academic and technical staff members, which threatens the quality of staff members for effective service delivery.

There is also paucity of state-of-the-art laboratory facilities. This affects the quantity and quality of research output and restricts the kind of research that can be undertaken. In addition, the Faculty has a very low research grants profile. Much of the research is conducted through the efforts of the staff members and the students without any research grant. In fact, even the University itself has not been providing research funds and there is no indication that this will change in the near future. Finally, there is the non-existence of an established reward system. Staff members that excelled in their area of specializations through their outstanding research output are hardly officially recognized. This tends to give a wrong signal to the majority of the staff members that they do not have to work extra-ordinary.

4.2.5.3 Opportunities

The Faculty has a vast alumni network, which it has not properly utilized for its benefits. However, with a well-planned strategy and good coordination, it can still reach out to its alumni for support. For instance, the Faculty is organizing a Scientific Conference and home-coming for its alumni (supposed to be in November, 2018 but has been postponed to a later date in 2019 yet to be announced due to a strike action by the academic staff members). This will avail the Faculty an opportunity to showcase its successes over the years and pressing challenges (such as inadequate laboratory and learning facilities) with the hope of seeking the support of the alumni to overcome the challenges. The Faculty can also use its 'goodwill' to seek collaboration with some national and international institutions in order to share resources and experience. This can provide both the staff members and the postgraduate students an opportunity to share experience and use research facilities (that may not be available within the Faculty) in the other institutions. There are also many national and international research grants awarding organizations that support excellent research proposals. Therefore, the Faculty can provide adequate training for its staff members on research grants proposal writing and grants management in order to compete for the scarce resources globally. This will enhance research skills and boost research output.

4.2.5.4 Threats

There is persistent problem of inadequate funding from the federal government. This demoralizes staff members and enormously affects the quality of the research output. The new Faculties of Engineering within the Universities in the region and the country as a whole are becoming very dynamic and, in some cases, have surpassed the old Faculties of Engineering like that of Ahmadu Bello University in terms of available facilities and quality of service delivery. For instance, there are three other universities within the North-western region of Nigeria that have Faculty of Engineering. Among them, the Faculty of Engineering in Bayero University Kano is the most established. It has won the Science and Technology award for the nationwide Universities Research and Development Fair (NURESDEF) in 2010 and the Research and Development award in the Techno Expo organized by the Raw Materials Research and Development Council (RMRDC) Abuja, Nigeria in 2011 (BUK, 2018). There is the tendency that the Faculty can attract more students especially the post-graduate students that tremendously assist in research than the Faculty of Engineering in Ahmadu Bello University. Therefore, the Faculty of Engineering in Ahmadu Bello University needs to be proactive and reinvigorate itself in order to maintain its competitiveness.

5 Identification of Priority Research Areas and Creation of a Research Management Structure

5.1 Identified Priority Research Areas

Based on the extensive research conducted and experienced acquired by the staff members and postgraduate students of the Faculty over the years, the following key research priority areas have been proposed:

1. Design and Fabrication of Agricultural Equipment and Machineries
2. Development of Renewable Energy Resources and Technologies
3. Process Analysis, Modelling, Simulation and Optimization
4. Development of Composite Materials for Institutional and Industrial Applications
5. Environmental Degradation Mitigation and Management

Each of the identified research priority areas is multi-disciplinary in nature. For example, design and fabrication of agricultural equipment and machineries can be a collaborative undertaking by some staff members in the Departments of Agricultural and Bio-resources Engineering, Mechanical Engineering, Metallurgical and Materials Engineering and Electrical Engineering. Every discipline has a key role to play and bringing specialists in specific areas together would lead to quality research output. The key research areas are targeted at impacting positively on the socio-economic activities of the immediate communities, the region and the entire country. Excellent research coordination in these areas would enhance food and energy security in a sustainable environment. In addition, it would boost research skills and spur

innovation. Therefore, the identified priority areas have the potential to strengthen the Faculty's research capabilities and hopefully lead to high-impact research output.

However, it is important that even though the Faculty should focus on the identified research priority areas for enhanced research strengths, it should also support other areas of research because not everyone is expected to fit within the priority areas. Moreover, research by its very nature is constantly evolving; what is cutting edge and very important today may be obsolete and irrelevant in the near future. Hence, while the research management plan encourages allocation of more time and resources on the identified priority areas, it is important not to neglect the broader research community.

5.2 Research Management Structure

It is extremely important to have a well-defined research management structure in order to coordinate research activities in the Faculty for enhanced research output and profile. Therefore, it is suggested that a Faculty Research Committee should be formed, which shall be chaired by the Faculty Representative to the University Board of Research. The Committee's responsibilities are to oversee the activities of the research groups for the identified priority areas, serve as a conduit for communication from the research groups to the deanery, initiate and promote collaboration with other institutions and private organizations, develop strategies for the marketing of the research outcomes and monitor the Faculty's research performance. Figure 2 shows the block diagram for the proposed research management structure in the Faculty.

It is equally important that support services are provided to the research groups by the Faculty. These include preparing applications for research grants proposals, identification of potential research funding agencies and collaborators (both public and private organizations), preparation of the research contract agreements and administration of projects after research grants awards have been secured and support in procurement of laboratory facilities. Institutional support and commercialization of research outcomes are among the key enablers for a successful research management (Ziegele, 2018). Overall, the key objectives of the developed research management structure are to:

- a) establish a strong research culture that promotes dedication to research excellence, innovation and entrepreneurial activities;
- b) encourage inter-disciplinary research and collaboration among staff members in the Faculty and between the Faculty and relevant regional, national and international partners;
- c) promote specific research areas with potential to significantly impact positively on the socio-economic activities in the region, in particular and the country, in general;
- d) enhance research skills of staff members in the Faculty for high quality research output;
- e) create an impressive research profile for the Faculty.

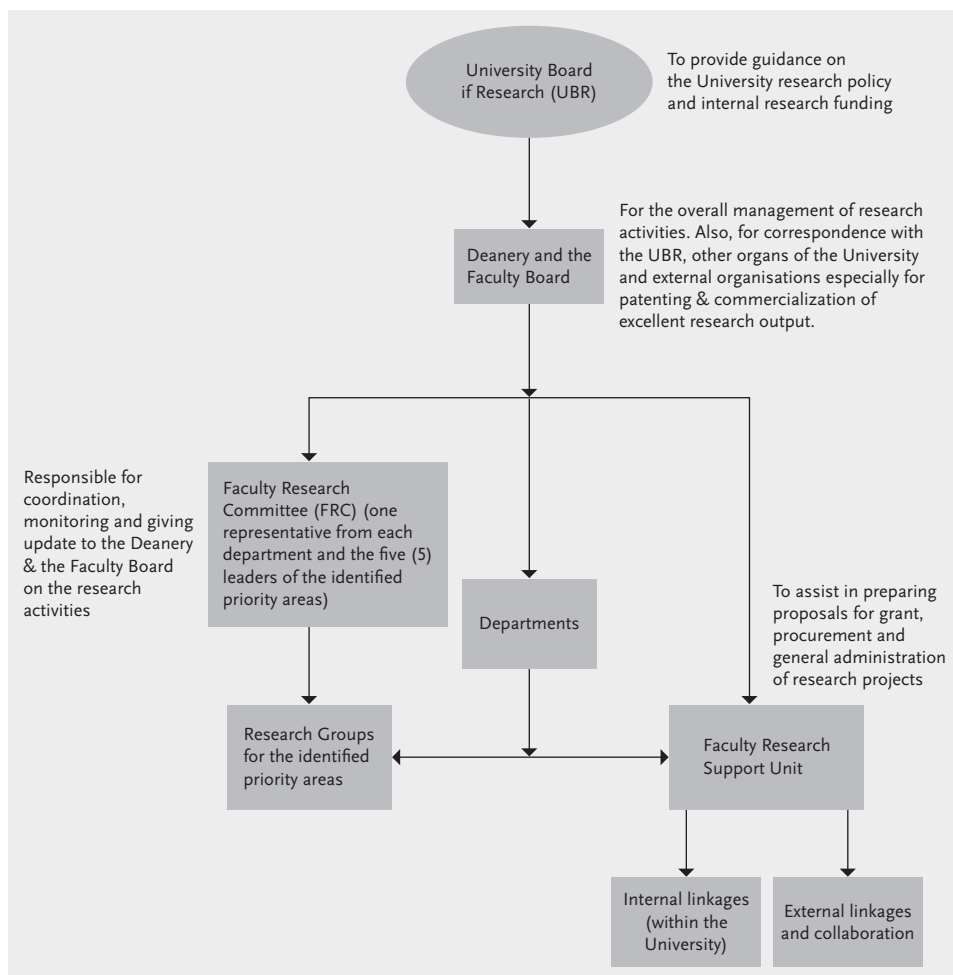


Figure 2: Block diagram for the proposed research management structure in the Faculty

Dissemination of knowledge generated through research is not restricted to the traditional academic publications and conference presentations but also includes innovations and partnerships that impact on economic activities and commercialization of research outputs. In fact, recently many universities are expanding their entrepreneurial activities through development of products and provision of specialized services in order to raise their profile and augment funding. Therefore, promising research output can be patented, licensed and spin-off companies established or private companies can be encouraged to set-up factories for large scale commercial activities.

However, effective implementation of the research management plan is required in order to achieve the targeted benefits. In the short term, success will be measured by an increase in collaboration, research funding and publications. While

in the long term, success will be measured through acquisition of state-of-the-art laboratory facilities for enhanced research capabilities of staff members and commercialization of research products with significant socio-economic benefits. Though, it is pertinent to mention that the identified priority research areas and the developed research management structure be frequently reviewed and updated in order to make it responsive and relevant at all time.

6 Conclusion

Research is one of the main functions of universities, which are increasingly being recognized to have an important role in the socio-economic development of their societies. Based on the findings in this study, it is clear that the Faculty of Engineering in Ahmadu Bello University has adequate and qualified academic staff members that can boost research output. In addition, over the years, a lot of research has been conducted by the staff members and postgraduate students in the Faculty and some have recorded significant success. The SWOT analysis indicated that while there are very important challenges that need to be addressed, the Faculty can still use its potentials in order to improve the quantum and quality of its research output. However, with better coordination in terms of streamlining to focus on priority research areas and having a well-defined research management structure, the Faculty can excel in research by creating a strong research culture that would lead to an outstanding research profile.

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Developing Sustainable Research Structure and Culture in Alex Ekwueme Federal University, Ndufu Alike Ebonyi State Nigeria

JOHNNY OGUNJI

Abstract

Realising the importance of research as a core function of a university and for national development, Alex Ekwueme Federal University Ndufu-Alike (AE-FUNAI), Nigeria, bought into the project of developing structure and culture of research in the University. AE-FUNAI was established by the Federal Government on February 26th, 2011 with the goal of expanding and improving access to quality tertiary education to this part of Nigeria. AE-FUNAI believes that building research in universities lacking in a rich research tradition requires the vital development of a research culture. Culture refers to patterns of human activity and the symbolic structures that give such activity significance. It is a deep and holistic expression of human activity learnt over time. Culture influences all our choices, including personal choices and how we display these choices. This paper discusses the Project Action Plan (PAP) designed and implemented in the framework of the International Deans Course (2017/2018). The University benefited from the project to develop a sustainable research structure. The foundation for an enviable and functional research culture was set in place. The University has got a Research Policy which is being considered by the University Senate for approval. Many staff have been trained and more trainings/workshops are to be continued by the Directorate of Research. The development of a good research culture has been initiated in AE-FUNAI.

1 Introduction

1.1 Research and need for Culture

It is increasingly recognized that sustained economic prosperity for both developed and developing countries is linked to the development of the knowledge economy (Kearney, 2015). The contribution of knowledge to science, technology, and industry nexus is crucial to growth and development of nations and growth can thus be influenced by public policies affecting investment in Research and Development (R&D) and education (OECD 1996).

It is reported that a nation's overall capacity depends considerably on its research. Universities, as centres of knowledge production and generation, play a criti-

cal role in the national research (Li et al. 2008). The extent to which higher education institutions are engaged in R&D activities has a key role in determining the status and the quality of these institutions and the contribution which they make to economic and social development (Hazelkorn 2010). Furthermore, R&D is the most enduring and effective means of boosting sustainable economic development and re-enforcing competitiveness in the face of rapid growth taking place between industries, countries and peoples in the world (Bako 2005). Breakthrough findings from research, measured by publications in first class and medal winning journals and books, form one of the main criteria for ranking the “world class universities” (THES Ranking 2011).

It is thus obvious that research has assumed a very important role and attempt to develop a culture of research has become crucial and very indispensable. Hanover Research (2014) defines the culture of research as a system that places great value on conducting and communicating scholarly research. Interestingly many universities have responded in varied ways to the call for a stronger research orientation.

1.2 Need for Research Culture in AE-FUNAI

Alex Ekwueme Federal University Ndufu-Alike (AE-FUNAI), Nigeria was established by the Federal Government on February 26th, 2011 with the goal of expanding and improving access to quality tertiary education to this part of Nigeria (<https://www.funai.edu.ng>). The University has seven (7) Faculties, a College of Medicine and Postgraduate School. AE-FUNAI offers high quality academic programmes in the Basic Medical Sciences, Humanities, Engineering and Technology, Sciences, Management and Social Sciences, Education, Agriculture and MBBS programme that meet national and international academic best practices and the demands of the 21st century economy. The University has a total academic staff number of 587 and 5000 students.

The vision of AE-FUNAI is to be a world class University and a vibrant Centre of learning and research that will be reputable nationally and internationally and a hub for the economic transformation and development of this region through creative and innovative endeavours. The mission is to train top quality human resources that will propel the development of the country by equipping the graduates with relevant knowledge and skills required in the market place in a globalized world. The University philosophy is strictly guided by the desire to raise problem solvers for the nation through the production of highly knowledgeable, skilled, enterprising and self-motivated graduates. As such the University has taken a decision to emphasize excellence, integrity and entrepreneurship in all her academic and administrative activities.

If the AE-FUNAI can achieve her goals and objectives enviably the need to develop a culture of research at these early years of her establishment has become very imperative. Building research in “new universities” (Cheetham 2007; Lewis and Simmons 2010) lacking in a rich research tradition requires the vital development of a research culture (Johnson and Louw 2014). Hazelkorn (2010), however, has indicated

that building a research culture 'is not without its challenges, especially in those institutions where research is relatively new or fragile. Notwithstanding, the challenges AE-FUNAI Management took the process headlong to achieve expected ends.

2 Concept of "Research Culture"

"Culture" comes from the Latin word *cultura* which means "to cultivate". Culture refers to patterns of human activity and the symbolic structures that give such activity significance (Johnson and Louw 2014). Culture is a subterranean and complete expression of human activity learnt over time. Marchant (1998) characterizes culture as a system of widely shared and strongly held values.

Lewis and Simmons (2010) posit that the structure of research needs to be created within the historical, political and cultural context of the educational setting. Research culture is the structure that gives [research behaviour] significance and that allows individuals to understand and evaluate the research activity. Culture influences all human choices, including personal choices and how the choices are displayed (Cheetham 2007).

To develop a research culture, Salazar-Clemeña and Almonte-Acosta (2007) outlined the following indicators as very important: (a) the impact of research, (b) administrative practices, (c) inter-institutional collaboration, (d) institutional research strategy, (e) financial reward system, (f) infrastructure, (g) the presence of ethical policies, and (h) the availability of research funding.

Organisational contexts give expression to culture or sub-cultures in an institution (Johnson and Louw 2014). For any developed research culture to endure, Hanover Research (2014) advocates that new policies relating to research must be enforced with regularity over time before they are accepted. As soon as the introduced policies are accepted, administrators are expected to be prepared to meet continuing challenges, such as maintaining research funding, developing partnerships with outside institutions to expand research opportunities, and confronting institutional changes.

3 Project Action Plans

Project Action Plans (PAPs) is the application of learning in International Deans Course to addressing real world problem (within the ones scope of influence) in the participants' environment. PAP is an integral part and core component of the International Deans' Course (IDC). The topics of the IDC can be applied in the PAP. The PAP serves to induce change processes of which deans feel that they are needed in the faculty. Mayer (2008) states that PAP is one of the reliable tools in changing the nature of university governance, strategic faculty management, and quality management in an integrated manner. It systematically exerts a changing impact on managerial routineness which so far has been undertaken by organizations. According to

Limantara (2014) PAP approach also reflects the environment outside of the organization system, it involves a number of stakeholders and the result makes a significant impact on the advancement of the organization which in its implementation requires intellectual and social challenge. The PAP has become a reliable tool in the hands of leaders who are yearning for the development of organizations which would lead to continuous progress. There is no gain saying the fact Institutions that have applied supported PAP and applied it have benefited immensely. The foregoing discourse about PAP motivated the writer and gave impetus to undertake the project to developing sustainable research structure and culture in Alex Ekwueme Federal University, Ndufu Alike Ebonyi State Nigeria.

4 Sustainable Research Structure and Culture in Federal University, Ndufu Alike Ikwo Ebonyi State Nigeria

The specific objectives of this project are to:

1. Raise awareness of academic staff on the importance of research for personal, institutional and national development
2. Teach the needed skills to undertake research effectively
3. Introduce a new Research Culture and encourage staff to imbibe it.
4. Introduce staff to sources of research funding and equip them to successfully win grants
5. Stimulate academic staff to do research enthusiastically
6. Work with others to develop University Research Policy

The intended outcome/product of the project are the production of a University Research Policy and to lead staff to be well rounded in doing research, getting grants and publishing in top ranking Journals.

The project planning and execution process are presented in Table 1.

Table 1: Key Task A

Key task A			
Task 1	Task 2	Task 3	Task 4
Brief the Vice Chancellor formally about the first part of the IDC and my action plan. Recommend to him to set up a Research Policy drafting committee (RPDC) to work with me.	Hold inaugural meeting of Research Policy Drafting Committee (RPDC)	Organize meeting with selected researchers with good track records who will assist in future training and assist in driving the project (Constitute the Research Training Committee – RTC)	Organize a meeting of the RTC to do environmental scan and plan and workout training needs cum set out timetable and share roles
Milestone A: University Management approval for project received, research policy drafting committee set up and research training committee constituted			

Key Task A - was undertaken as a necessary first step to build consensus by explaining the project to the Vice Chancellor, his Deputies and Deans of Faculties. This was crucial given the importance of developing sustainable research structure and culture in Federal University, Ndufu Alike Ikwo Ebonyi State Nigeria

Table 2: Key Task B, C and D

Key task B			
Task B1 Organize meeting of Research Policy drafting committee (RPDC) to commence drafting of policy	Task B2 Conduct workshop on research culture using Vitae Researcher Development Framework (RDF) – Faculties of Agriculture, Education, Engineering and College of medicine	Task B3 Conduct workshop on research culture using Vitae Researcher Development Framework (RDF) – Faculties of Science; Arts and Humanities	Task B4 Conduct workshop on research culture using Vitae Researcher Development Framework (RDF) – Faculty of Management and Social Science
Milestone B: Commencement of research policy draft and completion of the workshop on research culture			
Key task C			
Task C1 Conduct workshop on research methodologies and ethics for Faculty of Agriculture; Education; Engineering and College of Medicine	Task C2 Conduct workshop on research methodologies and ethics for Faculties of Science; Arts and Humanities	Task C3 Conduct workshop on research methodologies and ethics for Faculty of Management and Social Science	Task C4 Conduct stake holders workshop to discuss and make input in to the draft copy of University Research Policy
Milestone C: Draft Research Policy presented to University community for criticism cum input and completion of the workshop on research methodology and ethics			
Key task D			
Task D1 Organize meeting of Research Policy drafting committee (RPDC) to effect corrections and conclude draft of policy	Task D2 Conduct workshop on research funding and grantsmanship for Faculty of Agriculture; Education; Engineering and College of Medicine	Task D3 Conduct workshop on Research funding and grantsmanship– Faculty of Science, Arts and Humanities	Task D4 Conduct workshop on research funding and grantsmanship– Faculty of Management and Social Science
Milestone D: Completion of Research Policy and the workshop on research funding and grantsmanship			

Key Task B, C, D, were undertaken to enhance the process of developing research policy and to build capacity need for embedding a research culture

Table 3: Key task E

Key task E			
Task E1	Task E2	Task E3	Task E4
Submission of Completed Research Policy to University Management	Conduct workshop on act of publishing for Faculty of Agriculture; Education; Engineering and College of Medicine	Conduct workshop on act of publishing for Faculty of Science; Arts and Humanities	Conduct workshop on act of publishing– Faculty of Management and Social Science
Milestone E: Submit completed University Research Policy and completion of workshop on the act of publishing			

Key Task E were activities put in place to enhance the finalization of the research policy. Stake holders were invited to make their input and adopt this important document. After this last process the draft Research Policy was submitted to the University Management for Senate Approval. Also the concluding research capacity building workshops were conducted for this project

Table 4: Key task F

Key task F	
Task F1	Task F2
Organize workshop on Research Grant Handling and Processing for Bursary Department	Organize inauguration of Faculty Research Committees and Research Teams as Identified by Faculties Cum presentation of University Research Policy
Milestone F: Celebrating the development of Research Policy for Federal University Ndufu Alike and setting up of sustainable structure for Research in the University.	

Key Task F was undertaken to facilitate public presentation of the Research Policy and setting up research committees and teams in the University. It was the climax of project activities in the University

5 Project Outcome

All the tasks as outlined in Table 1 were carried out. Importantly, the workshop on research culture was conducted using Vitae Researcher Development Framework (RDF) (www.vitae.ac.uk/rdf) as the resource material. The essence was to assist staff to build up the knowledge, intellectual abilities, techniques and professional standards to do research. The RDF also helps staff to improve personal qualities, knowledge and skills to work with others and ensure the wider impact of research. This is important if research culture in our University will be sustained.

RDF is a guide to the development of an academic as a professional researcher. It enables individuals to identify the strengths they already have and prioritize for

personal and career development in the context of future career opportunities. RDF enables one to consider the skills and experiences that will enhance career prospects and articulate capabilities to future employers.

At the end of the project a research structure has been set in place with the completion of a research policy for AE-FUNAI. This instrument will regulate research activities in the University. The Policy is at the moment with the University Senate for final approval. Chapter 4 of the new Policy deals with research culture in AE-FUNAI. The ideas and culture strategies of the University are captured as follows:

FUNAI Research Culture Ideas

1. A culture of research requires both institutional- and unit-based leaders to set clear research goals and communicate them effectively.
2. Institutions wishing to develop a culture of research must allocate significant resources for faculty training and support.
3. A developing culture of research requires open and collaborative personal relationships among faculty members.
4. To implement cultural change, administrators must be prepared to tailor resource allocations based on faculty members' current motivations and abilities.
5. A culture of research may take years to develop and, once established, requires regular maintenance.
6. Plans for a culture of research should include consideration of student involvement.

Research Culture Strategies

1. There shall be a deliberate action by the Vice Chancellor and Management to seriously improve the research profile of AE-FUNAI. Issues about research shall be prominent in the strategic plan, other high level plans, and mainstream budgets.
2. All Deans, Directors Heads of Departments and senior staff shall actively support research development.
3. Research activities shall be led by a member of the Director of Research. However the whole task cannot be left for one person.
4. AE-FUNAI shall focus her development of research profile in areas identified by each faculty and departments respectively. However, the Directorate of Research shall ensure that selected areas of research focus are local and national areas of need.
5. To the extent that research intensiveness brings about research excellence, FUNAI shall consciously and carefully plan to invest her scarce resources in a few selected areas from time to time. This shall be determined by the extent of investment required to develop world class areas.
6. AE-FUNAI shall take into account her mission; location; competitive advantages; existing research performance; interdisciplinary opportunities; and potential for collaboration when selecting its areas of research concentration.

7. The research areas selected for accelerated development shall be ones that can be sustained for a long period. They have to make complete sense in the context of the university and need to be based on known, not just predicted, factors.
8. While concentrating its research effort, the AE-FUNAI shall continue to develop new areas of focus as opportunities arise, and shall reward research excellence wherever it is found.
9. When one or two areas are achieving world class performance, as well as continuing strongly to support them, selected other areas should also be developed.
10. Throughout, individuals or undesignated small groups performing very well should also receive active support. These actions help to develop breadth of research performance.
11. As the research profile and performance improve, AE-FUNAI shall strengthen the linkages between teaching and research. Teaching and research shall follow the classical format of supporting one another. Teaching and research are connected via undergraduate research, honors students and higher degree by research candidates.
12. AE-FUNAI shall provide structures, such as research centres/institutes, that support research development while strengthening, not undermining, existing faculty structures. Care must be taken to discourage tensions between faculty structure and research centres or institutes allocations is one such mechanism.

Indeed the project was successful. The research policy proofed to be an instrument to influence the modus operandi for research. Staff have been giving training on different aspects of conducting research and writing for grants.

6 Key to Success

The Vice Chancellor gave an unalloyed support for the achievement of project objectives. He understands the need of a research culture in AE-FUNAI and as such motivated the University Management to throw their weight on the project. All funds and backing needed to make the project work were given.

The Deans, Directors and Heads of Departments/Units all supported the project. Their desire to see the realization of the project and establishment of a Research Culture in our university was demonstrated by active participation in the meetings, workshops and by setting up research committees at the different levels. These committees contributed to the Research Policy.

Cooperation and understanding of academic staff was shown by their huge turn up to workshops and stakeholders meeting. The willingness of a majority to accept the change being introduced was very heart warming.

7 Challenges

The few challenges encountered are as follows:

1. There was lack of interest by some staff. Even when the University Management enforced mandatory attendance of staff to the University Culture workshops some staff showed indifference
2. The scale of the workshops was limited by finance. This is due to the fact money is a limited resource. The University made available finances to run the workshops. However more could have been done with more funds.
3. A conflict with the role of University Director of Research was observed. The intervention of the Vice Chancellor salvaged the situation.

8 Conclusion

A culture of research may take years to develop. However, a good foundation is needed to ensure a formidable culture. Once the culture is established, it will require regular attention and supporting activities. AE-FUNAI through this project has laid a good foundation for research culture development. Drawing from the AE-FUNAI Research Policy it is indicated that the University shall ingrain a formidable culture of research. She is committed to ensuring that all research carried out under its auspices meets the highest standards of integrity. The University has given assurance to set-up an environment where research integrity prevails through the promotion of good research practices, together with the use of fair, effective, and transparent procedures to address research misconduct.

There is more to research culture than may have been addressed in this paper. The structure of research has been put in place with the completion of a research policy in AE-FUNAI. The culture has to be ingrained. All hands are on deck.

Acknowledgement

The Vice Chancellor and indeed the University Management are appreciated for their support in carrying out this project. I thank those that conceived the idea of PAP. It is good! Alex Ekwueme Federal University Ndufu Alike (AE-FUNAI) Nigeria has benefited from the project to develop a sustainable research structure and culture.

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A Strategy to Promote Research and Consultancy Assignments in the Faculty

A Case Study of the Faculty of Science and Technology – Mzumbe University, Tanzania

JOSEPH SUNGAU

Abstract

The research and consultancy services profile of the Faculty of Science and Technology of Mzumbe University has been of concern. The profile has been of concern due to the poor performance the faculty has in researches and consultancy assignments. In that regard, the faculty found it is necessary to improve the faculty performance in terms of researches and consultancy assignments for the health of the faculty. Following that need, the process to intervene and redress this situation started after the Dean of the Faculty attended International Deans' Course (IDC) - Africa phase I, which was conducted in Germany. This course exposed the Dean to faculty management approaches that can be used to manage the faculty performance. Following this training, the Dean found that it is important to identify strategies that can be used by the faculty to improve her performance in terms of researches and consultancy assignments. In this assignment of the redressing faculty performance in terms of researches and consultancy assignments, the Dean adapted the Project Action Plan approach to identify the strategies that could be used to improve faculty performance in terms of researches and consultancy assignments. In this approach, the Dean mobilized the faculty members to develop the strategy. In carrying this assignment, the Dean was assigned a mentor who is an IDC – Africa resource person. The mentor gained the Dean in this process of developing the strategy. The developed strategy was presented to the faculty meeting, IDC Africa phase II and III in order to get comments for improvement. Thereafter, the suggested comments were addressed accordingly. Therefore, this chapter presents a proposed strategy that can be used to redress faculty performance in terms researches and consultancy assignments. Specifically, the chapter presents objectives, strategic objectives, strategies, targets and measurable indicators that a faculty may concentrate with to improve her performance in terms of researches and consultancy assignments.

1 Introduction and Background

Mzumbe University is a public university of the United Republic of Tanzania, located in the Morogoro region which is about 250 km from the capital city of Tanzania (Dodoma) and 200 km from the major commercial city of Tanzania (Dar es Salaam). Mzumbe University has two campus colleges, two schools, three faculties and nine directorates. The Faculty of Science and Technology is one of the founding faculties of the Mzumbe University. The faculty was established in August 2002, in accordance with section 20(2) (a) of Act No 21 of 2001, which established Mzumbe University.

The faculty has about 1200 students distributed across three departments, namely, Computing Science Studies (CSS), Engineering Management Studies (EMS), and Mathematics and Statistics Studies (MSS). The faculty also has 32 staff members, both academic and administrative staff. Table 1 presents programmes which are offered in the Faculty as well as the staff complement and student numbers per department.

Table 1: Programmes offered in the Faculty of Science and Technology

S/N	Department	Staff	Programmes	Students
1	Computing Science Studies:	Academic Professor: 0 Senior Lecturer: 1 Lecturer: 5 Assistant Lecturer: 5 Assistant Tutorial: 3 Administrative: 1 Student: Teacher Ratio – 45:1	Master of Science in Information Technology and Systems (M.Sc. ITS)	9
			Bachelor of Science in ICT with Business (B.Sc. ICT-B)	160
			Bachelor of Science in ICT with Management (B.Sc. ICT-M)	111
			Bachelor of Science in Information Technology and Systems (B.Sc. ITS)	149
			Bachelor of Science in Library and Information Management (B.Sc. LIM)	132
			Diploma in Information Technology (DIT)	39
			Certificate in Information Technology (CIT)	9
			Certificate in Library and Information Management (CLIM)	17
			Total Students	626
2	Engineering Management Studies	Academic Professor: 0 Senior Lecturer: 0 Lecturer: 3 Assistant Lecturer: 2 Assistant Tutorial: 2 Administrative: 1 Student: Teacher Ratio – 71:1	Bachelor of Science in Production and Operations Management Degree (B.Sc. POM)	105
			Bachelor Science in Industrial Engineering Management Degree (B. Sc. IEM)	246
			Total Students	351

(Continuing table 1)

S/N	Department	Staff	Programmes	Students
3	Mathematics and Statistics Studies	Academic Professor: 1	Bachelor of Science in Applied Statistics (B. Sc. AS)	116
		Senior Lecturer: 0	Bachelor of Science with Education (Mathematics & ICT) - (B. Sc. Ed. MICT)	285
		Lecturer: 3		
		Assistant Lecturer: 6	Diploma in Applied Statistics (DAS)	16
		Assistant Tutorial: 1	Certificate in Applied Statistics (CAS)	8
		Administrative: 1	Master of Science in Applied Statistics	3
		Student: Teacher Ratio -39:1	Total Students	428

Mzumbe University works in accomplishing three core functions; teaching, researching and consulting. These functions are guided by policies and guidelines of the university. Among the core functions it works with, the university concentrates mostly in teaching as her primary function. On the other hand, other functions of the university (researches and consultancy assignments) are accomplished too at relative lower pace.

In order to accomplish researches and consultancy assignments, the university has in place two directorates responsible for researches and consultancy assignments. These directorates have, in place, guidelines and policies which govern the conduct of researches and consultancy assignments. The two directorates work together with the postgraduate and research section of the faculty. The main task of the two directorates is to promote research and consultancy assignments in the university. For instance, the directorate responsible for research assignments has been training staff on research matters, promoting researches in the university by setting aside about 50 million Tanzanian Shillings (about 20, 000 Euro) for funding junior staff's research proposals in a year. Not only that but also the directorate has a policy that promotes mentoring of junior staff in research assignments; in this case senior and junior staff write and submit joint proposals for research assignments. Also, the directorate assists staff in publishing their research works. The published research works are awarded during convocation days and used by staff in applying promotions.

On the other hand, the directorate responsible for consultancy assignments has been training staff at the university and mentor junior staff as well. Also, the directorate has guidelines and policies that govern its operations and promote staff to carry out consultancy assignments. The policy aims at facilitating and attracting staff to carry consultancy assignments. For instance, in attracting staff to carry more assignments, the consultancy policy presents that the earned consultancy value is shared as follows, whoever wins a consultancy assignment, 80 % of the assignment value is given to him/her, and 20 % is retained by the university. Furthermore, in order to encourage consultancy assignments in the University, during convocation day,

the university recognizes all those who carried out consultancy assignments by awarding them.

In assisting the university accomplishes her core functions, the faculty has the main roles of teaching, researching and consulting in the discipline of science and technology, although research and consultancy assignments are done in relative poor pace. The specific areas in which the faculty plays her main roles are: -

- Computer Science, Information & Communication Technologies;
- Industrial Engineering, Production & Operations Management and
- Mathematical Modelling, Statistics, Applied Mathematics & Statistics.

The operations of the faculty has been shaped by institutional policies and frameworks. At the faculty and university at large, researches and consultancy assignments are very important as they increase university visibility as well as income generation. In that regard, the faculty has been striving to conduct researches and consultancy assignment. To improve her performance in research and consultancy assignments, the faculty has put in place several measures in ensuring that it wins a good number of researches and consultancy assignments. Particularly, the faculty has established the section responsible for researches and consultancy assignments. The main responsibility of the section is to identify different calls and opportunities in researches and consultancy assignments and forms teams to respond to such calls and opportunities.

The Problem

The research and consultancy services in the country are of paramount important. This follows the argument that “no research no right to speak”. This arguments necessitate the need for researches in the country, mainly to the policy makers. Currently, the government of united Republic of Tanzania has seen the importance of researches to polocy makers. The government has been working hard to link the policy makers at all levels with academic institutions. In this linkage, academic institutions entail to presents research based findings whereby the policy makers uses the findings for decisions and policy making. In this ground, there are many opportunities in the country on researches and consultancy assignments (Nzuki, Hassan & Mbilinyi, 2013). Despite of these opportunities, the university is disadvantage since it is located relatively far from both the capital and commecial cities of United Republic of Tanzania. Being far from these cities, it poses challenges in grabbing the existing opportunities from the government side.

Based on these opportunities and the disadvantage, the faculty and the university had done a lot to promote reseaches and consultancy assignments as presented in the background of the problem. Despite the initiations done by both the faculty and the university in promoting researches and consultancy assignments, the faculty performance remains poor in terms of researches and consultancy assignements. This is evidenced by Figures 1 and 2 below.



Figure 1: The Faculty Research Trend

As the evidence of poor performance, from Figure 1 it can be deduced that the performance of the faculty in terms of research is not promising. For instance, between 2007 and 2009, the performance of the faculty in terms of research assignments was decreasing. Thereafter the performance increased for a period between 2009 and 2011. But the higher level of research proposals and research proposals granted was temporary. In the period between 2011 and 2014 the performance decreased again. After a dismal performance in 2014, the performance increased somehow, but to a low level, and with a rather dissatisfactory trend in terms of proposals won. A further observation indicates that the faculty has recently submitted more research proposals but with a lower percentage of proposals being successful.

In terms of consultancy assignments, again the faculty is performing poorly. This is evidenced by the trend as presented in Figure 2. The faculty is not stable in carrying consultancy assignments. There has been up and down in not a relatively promising way.



Figure 2: Consultancy trend in the Faculty of Science and Technology

In this regard, as per scenarios in Figure 1 and 2, the performance of the faculty is still poor despite the financial investments done by both the faculty and university at large. Furthermore, based on the faculty performance, it is clear that a well thought-through and best practices-informed process of creating a sustainable culture of research and consultancy has not yet received attention in the faculty. In this regard, there is a need to change the culture of the staff in terms of research and consultancy. Therefore, this case aims at identifying strategies that the faculty can use to promote researches and consultancy assignments at the faculty level.

2 Literature Review

2.1 Research

Research is a process of searching for facts or answers to questions and/or finding solutions to problems. Research is a purposive investigation of phenomena done by a qualified entity. Research is a systematic way of investigating a phenomenon through a scientific way. Usually, research is based on empirical and/or observable evidences that is aiming at developing a theory, testing theory and/or explaining a phenomenon (Ndunguru 2007).

Research is a major and important factor in economic development of a country and it has become increasingly important in the university context (Zhang 2014). Researches have several importance in the society as presented here below:

- Enable building of knowledge and facilitates learning

Researches are importance to students, academics and professionals in different fields. Researches enables to determine what the general public want to know about or what a researcher want the general public understand about a given fact. In other words, researches enables the determination of facts/truth about an idea in order to become knowledge about a given phenomenon. Not only that, but also the researches enable one to determine the validity and reliability of a given information.

- Enable the public to understand and increase awareness of various matters

Researches enable people to inquiry more about a phenomenon and share with the public about what has been gathered in order to increase understanding and awareness on a matter. This is achieved by conducting an interview with people who are knowledgeable about a phenomenon.

- Facilitates business success

Most mass producing companies need to research on what a market needs, wants and desires before starting of the actual production. In this case, researches enable companies to identify what is needed, wanted and desired in a market. Failure to use research in determine the requirement of a market, it may lead to a company pro-

ducing what is not for a given market. Not only that, companies conduct researches for product innovation and/service improvement.

- Enables finding and gauging opportunities

In day to day operations there are opportunities which they need to be determined for one to take advantage. In order to determine the opportunities, one need to research on them and determine their sizes. In this regard, researches are enabler of determining the existing opportunities and their size,

In order to achieve such importance, researches are inevitable. In many countries, universities have been good players of research works as they conduct researches and share the knowledge obtained with the public. Based on this role, universities and governments invest a lot on research activities for significant conduct of research and publication of research findings for academics and public consumption (Zhang 2014; Erero 1994). In this ground, research activities are very important to universities, academic staff and public at large (Zhang 2014). Furthermore, research activities are very important to universities as they publicize the universities and enable them to produce wealth as well (Geuna 1999).

However, universities have been facing challenges in carrying researches which have significantly affected number and quality of researches produced. Among the challenges, treating researches as a means of attaining qualification for academic promotion has been reported to affect researches in academic institution. In this challenge, academics in different academic institutions put more efforts in conducting researches when they inspire to be promoted in next levels of their academic ranks, once they are promoted, they reduce the effort and publish less. This behaviour affects the number of researches and publications made. Not only that but also, the quality of researches are affected since most researches conducted are conducted in rush and are more theoretical, which do not focus for solving societal problems (Kırkılıç, Sevim & Söylemez 2015; Sawyerr 2004).

Also, unavailability of time to conduct researches has been a challenge that faces academic staff to produce more and quality researches. These has been a result of heavy teaching workloads to teaching staff in academic institutions as most universities are giving more priorities in teaching and produce graduates since they are teaching university rather research university. The heavy workloads make them concentrate in teaching while less time is given on researches. Not only that but also inability to mentor junior staff, lack of enough motivation and poor infrastructures are challenges that affect academic staff to accomplish their researches on time and build researching culture (Yalcin & Yalcin, 2017; Sawyerr 2004).

2.2 Consultancy

A consultancy is an advisory service which is contracted for or provided by an expert (known as consultant) of given field on a given specific problems. Consultancy is a process of interaction where the consultant in an objective and independent manner diagnoses, investigates problems and issues concerned with management practices,

analyses them, recommends appropriate action and provides assistance when requested in implementation of recommended solutions (Vukotić et al. 2017).

Consulting is knowledge, additional value and program that support for products and solutions that increase the value of the resources and assets of the client. Consulting companies provide consulting services or give more precise advice, suggestions and expert opinions in the area that organizations have just determined and for which they have expertise. The term consulting services by default, is a special and comprehensive approach to solving business problems of clients (Vukotić et al. 2017).

Universities, as an organization, have been offering consulting service to many clients. Consulting, in university context, is the provision of a service by academics to external organizations on commercial terms. It involves providing advice, resolving problems as well as generating or testing new ideas. Base on this role, universities have been encouraging staff to carry out consultancy assignments (Schmoch 1999).

Consulting has fundamental features, according to Kubr (1976) some of the fundamental features are as follows:

1. Consulting is an independent service. This independence is limited by consultants enter into a very complex relationship with their client organisations and people who work in them. Basically, the consultant is added to an existing team organization requesting assistance, where his property updates at the same time, and its main role. The consultant has no direct authority to decide about changes and apply them-but this must not be considered as defects. The consultant needs to perfect the skills of deep consideration change without giving up their independence. Therefore, first, provides the highest degree of customer involvement in the work, so that the final success is shared success.
2. Consulting is essentially advisory services, meaning that you don't hire consultants to manage organizations or to make delicate decisions for managers who need this service. They are consultants (advisers) and their responsibility regarding the quality and validity of the advice that they give. It's not just about giving the right advice, but also about giving advice at the right time and in the right way-these are basic skills of consultants. The client in turn has to be very active in the process of receiving tips that originate from a consultants, trust them, and adopted as its application in your organization, because, ultimately, they bear full responsibility for the consequences of which continue to occur. Open style of governance would advocate consulting and consulting as a normal form of business conduct, and not as a sign of ignorance or weakness (Young 1992).
3. Consulting is a service that provides professional knowledge and skills which are essential for effectively addressing the problem of management (administration). What is special about consultants is that over the years through a number of organizations and learn how to use their collected experience from previous assignments in new conditions. In addition to this, professional consultants are constantly improving the methods and management techniques, including those used in universities and research institutions; transfer this experience to

clients and assisting them in the implementation. They work as a link between theory and practice in management. However, by default, and managers must also possess certain types of skills, particularly in the implementation of new ideas. Fourth, consulting is not a service that provides an easy and simple solution too difficult managerial problem. Consulting is hard, systematic and disciplined work based on analysis of solid facts and researches all possible solutions. Strong management commitment to solving problems of organization and cooperation between client and consultant alike are crucial for the quality of advice is received, as well as to the end result. Most consulting services applies to: Communications Management, Business plan, Feasibility study, Investment study, Cost-benefit analysis, Marketing plan, Management plan, Study of property management, Restructuring plan, Business Process Reengineering etc.

4. Beside the fundamental features of consulting, organizations/individuals need consultants for various reasons. Among the reasons, firstly, organizations need a second eye to their problem in order to know what they see/understand is understood the same as what they understand. Secondly, organizations/individuals do not have always enough manpower to solve their problems, therefore, they need to hire the missing manpower for solving a problem that they are experiencing.

In that regard, universities have been playing a great role in consulting as they have a good number of experts in different fields. They use their expertise to advice the public on a given issue or problem. In carrying out consultancy assignments, universities generate additional income and get engaged with new or existing partners for different academic activities. Due to that, universities can derive valuable benefits by offering consultancy services. The first benefits obtained are generation of external income given limited funding to pay high salaries to academic staff. Therefore, allowing outside consulting can keep key faculty members from leaving.

The second benefit is that, consulting enriching experience of staff, contributing to teaching and research assignments. In this regard, consulting enable lecturers to generate field based case studies that are used in teaching and increases teaching experience among academic staff (Whitford 2000; Flynn 2000). The other benefits are getting awareness of contemporary problems, knowing business institutions, getting access to data for research, enabling decision-making contexts, obtaining supportive material for teaching and research, developing new skills and experience, and identifying issues for future researches. Last, it enable academic staff to generate research ideas (Bost & Haddad 1996).

Despite the benefit obtained, universities have been facing challenges in carrying consultancy assignments. Among the challenges faced, universities fail to build stable and reliable customer portfolio that can provide new projects all year around. This has resulted to emerging several firms/individual to carry consultancy assignments. The emergence of firms/individual to offer consultancy service, has resulted to stiff competition in the market. In this regard, universities have been facing high

market competitions on consultancy assignments due to emerging of many new firms/individuals in the industry. The high market competitions has resulted in lowering consulting services prices.

The other challenge is that some university Chief Executive Officers consider consulting to be a distracting activity that divert faculty from the primary mission of the university (teaching and scholarly research) as it is used solely to enrich individual faculty members at the expense of the university (Sennetti 1981). In that regard, some universities Chief Executive Officers impose time limits and other restrictive conditions on outside consulting assignments. This restriction affect the performance of the faculties in terms of consultancy assignments.

Based on the literature review done, it should be understood that researches and consultancy assignments form a collaborative platform between universities and industry (Perkmann and Walsh 2007). This platform, results to close linkage between universities and the industry. In this linkage, usually universities carry out researches in industry from which the findings are used to solve organizational problems in consultative way. In most cases, research assignments results to consultancy assignments which as a result, lead to strong relationships between universities and industry (Mansfield 1995). Often, the relationship results to knowledge mediation due to interactive learning and knowledge co-production between universities and organizations (Rosenberg 1994). Therefore, the linkage brings benefits to both universities and organizations.

Based on the previous IDC cases on research and consultancy, Kibrai (2015) presented a case on Strategic Faculty Management Plan for Teaching and Research at the Faculty of Business Administration and Management – Uganda Martyrs University. The case aimed at improving teaching and conduction of researches and publication at the Faculty of Business Administration and Management. Base on the impact of IDC African 2013/2014. The case reports that research activities in the faculty increased. This led to increased publications in the Faculty. This case focused on improving teaching and researches in the Faculty, the main difference between the case by Kibrai and the current case is that the Kibrai case was done in Uganda and focused on teaching and researching as the core functions of university while the current case is based in Tanzania and is focusing on researching and consulting as the core functions of a university.

3 Methodology

In order to stimulate research and consultancy culture in the faculty, the IDC Project Action Plan (PAP) template was adapted to develop a strategic plan for stimulating researches and consultancy assignments within the faculty. The carrying out of the PAP started by attending phase I training of the IDC - Africa in Osnabruck – Germany. Where a training on how to manage faculties and other units was facilitated. As an outcome of the training, each participant was required to identify a manage-

ment problem in his/her unit and establish a solution to a problem through use of a PAP. After the first meeting of IDC Africa, participants continued to work on their PAP in different stages of IDC Africa under the guidance of the assigned IDC mentors.

In order to establish and implement the developed PAP, creating a common understanding among key stakeholders was very necessary. Therefore, the establishment and implementation of the PAP started by assigning mentors to participants who assisted in shaping identified problems. After shaping of the PAP, presentations of PAP were done to top management of the university, faculty management, and faculty members. The presentations were done in order to create common understanding, seek consent and support about the PAP from top university management to members of the faculty. Thereafter, the team at faculty level was formed to assist the implementation of established PAP. The formulated team was trained on the assignment and later on it was involved in accomplishing the PAP.

The team developed a data collection instrument, identified sections for data collection, and later on analysed the collected data to establish the current faculty status on researches and consultancy assignments. The team carried SWOT analysis of the faculty to establish SWOT and strategies matrices. Later on, the team established main and specific activities to achieve each strategic objective. In order to assess whether a given strategic objective has been attained, the team developed indicators in which assessment will be entered at. Finally, the team developed the strategy and shared it to different stakeholders for improvement before implementation of it.

4 A Strategic Plan for Enhancing Research and Consultancy in a Faculty

4.1 Faculty SWOT Analysis

SWOT analysis was conducted to determine the Strengths, Weaknesses, Opportunities and Threats/Challenges in the Faculty. The analysis enabled the faculty to determine where is strong and weak, what are available opportunities and challenges in research and consultancy activities. In carrying this assignment, faculty members and other university staff were involved. The process involved identification of internal and external issues that affect faculty operations in terms of research and consultancy activities. Furthermore, issues with positive and negative impacts to the faculty performance in terms of research and consultancy activities were identified and thereafter, strategies were developed to the faculty use the strength it has, to overcome the weaknesses facing it, to grasp the existing opportunities and to overcome the existing challenges as presented in the following sections.

4.1.1 External Analysis

Currently, Tanzania experiences an acute shortage of scientists and technologists. The few scientists and technologists that are trained in the country are normally not enough to cater for the country's needs. Not only that, but also the country is now focusing on developing the industrial sector and move Tanzania towards being an middle level industrialized country. This requires academic institutions to produce more graduates in the area of science and technology. Not only that but also, the country need to be informed through researching and consulting activities on how the country will achieve her vision. To accomplish this, there is a move in the country to link academic institutions and policy makers to work together and enable policy makers to make their decisions based on researched evidences and advises provided by academia. In this regard, there are opportunities on industrial development matters, ICT for development of a country and management of industrial data for proper industrial decision making. Following this needs, there are opportunities in science and technology discipline in terms of research and consultancy assignments.

In Tanzania, there are academic institutions which have good reputation in carrying out research and consultancy assignments in the area of science and technology. The majority of clients, stakeholders and/or donors prefer to work with these academic institutions. These institutions include the University of Dar es Salaam, Dar es Salaam Institute of Technology, Arusha Institute of Technology and Nelson Mandela African Institute of Science and Technology, to mention but a few. These institutions are located in the commercial city of Tanzania. While other university are advantaged by being at the main commercial city of Tanzania, Mzumbe University is disadvantaged since is located about 200 km from the commercial city.

4.1.2 Internal Analysis

4.1.2.1 Staffing in the Faculty

Based on the auditing by the team, it was revealed that the faculty has a total of twenty-seven (27) permanent teaching staff and five (4) permanent administration staff. One teaching staff is on contract. Out of the academic staff, 1 (3 %) is Associate Professor with PhD, 8 (29 %) are PhD holders, 4 (14 %) are on PhD studies, 10 (36 %) are master holders, and 4 (14 %) are on master studies. About fifty per cent of those who are on PhD studies are expected to complete their studies by July 2018. In this regard, the distribution of staff is not healthy to the faculty because there are fewer staff with a capacity of conducting researches and consultancies who will mentor junior staff in research and consultancy activities. The detail of academic staff and administration staff with their area of specialization is presented in the following Table 2.

Table 2: Current Status of the Faculty Staff and their Competencies

Category	Highest Qualification	Computing Sciences	Engineering Management	Mathematics and Statistics	Dean's office	Sub Total
Academic Staff	Professor	0	0	1 (On contract)	NA	1
	PhD	4	2	2	NA	8
	Master	2	2	6	NA	10
	Bachelor	0	0	0	NA	1
	On PhD studies	2	1	1	NA	4
	On master studies	4	0	0	NA	4
Non-academic Staff	Office Secretaries	1	0	0	1	2
	Office Messenger	0	0	0	1	1
	Driver	0	0	0	0	0
Total		16	5	13	2	31

4.1.2.2 Faculty Leadership

The faculty is led by the Faculty Dean, under the Faculty Dean there is the Associate Dean. The faculty has three (3) academic departments; department of Computing Science Studies (CSS), department of Engineering Management Studies (EMS) and department of Mathematics and Statistics Studies (MSS), and two (2) sections; research and postgraduate section and examinations section. Departments are led by the Heads of Departments and the sections are led by Research and Postgraduate Coordinator, and Faculty Examination Officer respectively, who report directly to the Faculty Dean.

Under the Head of Departments, there are Programmes Coordinators who report to the Head of Departments; and under Programme Coordinators there are Class Supervisors who report to the Programme Coordinators; and lastly, there are lecturers who reports to Head of Departments as well.

4.1.2.3 Resources

The desire of the faculty to increase enrolment necessitates the need to expand resources and the infrastructure. The faculty needs staff office building, research centre, qualified academic staff in different ranks, scientific and specialized computer laboratories, and workshops. Not only that, but also the faculty needs lecture theatres and seminar rooms as currently it is using university general lecture theatres and seminar rooms. In order for the students to demonstrate their innovation ability and apply what they learnt, the faculty lacks Incubation Centre too. The lack of all these necessary resources affects research and consultancy activities in the faculty too.

4.1.3 SWOT Matrix

After synthesis of the collected information on external and internal matters to the faculty, strengths and weaknesses of the faculty were identified and opportunities and threats to the faculty were identified as presented in table 3.

Table 3: SWOT Matrix

	Issues from <i>internal</i> faculty environment	Issues from <i>external</i> faculty environment
Issues having positive impact on the faculty ability to conduct research and consultancy	Strength 1. 8 members are PhD holders 2. The faculty has its own management 3. The faculty has undergraduate programmes 4. The faculty has postgraduate programmes 5. For three past years, the faculty enrolment was increasing by 33 % (following the introduction of 4 new programmes)	Opportunity 1. There are many calls for proposals in the science researches 2. There are many calls for proposals in science consultancies 3. The faculty is in good relationship with the Ministry of Education, Science and Technology. 4. The country has a vision of becoming an industrialized country 5. The faculty has good relationships with some university locally and internationally. 6. Good number of faculty graduates employed in different organizations 7. The Government encourage students to study science programmes
Issues having negative impact to the faculty ability to conduct research and consultancy	Weaknesses 1. The faculty has many junior academic staff 2. The faculty has inactive research & consultancy coordinator 3. The faculty does not have full autonomy 4. The faculty depends on the University infrastructure and financial resources 5. The faculty is not generating any income (Depends only on tuition fees which are under the University) 6. The faculty has very limited budget for research and consultancy activities 7. The faculty is about 200 km away from the capital and commercial cities 8. The faculty is trending poorly in research activities 9. The faculty is performing poorly in consultancy assignment 10. The faculty is trending poorly in innovation 11. Poor linkage with faculty alumni 12. Few academic staff in the faculty	Threat 1. There many giant and experienced science faculties in the Country 2. The faculty is less engaged with other stakeholders 3. The faculty is less engaged to the Public 4. Giant Universities are located in capacity and business cities of Tanzania

4.2 Strategies

After identification of strengths, weaknesses, opportunities and threats, it was necessary to establish the strategies that exploit the strengths and opportunities (SO-strategies), strategies that make use of strengths in order to minimise threats (ST-strategies), strategies that minimise weaknesses by taking advantage of opportunities, and strategies which help to minimise the weaknesses and help avoiding threats (see Table 4).

Table 4: An analysis of strategies for the Faculty based on threats, opportunities, weaknesses and strengths

	Opportunity	Threat
Strength	SO-strategies 1. Respond to research calls locally and internationally 2. Respond to consultancy calls locally and internationally 3. Collaborate with local and international universities in researches 4. Establish an incubation centre to establish society and industrial science solutions 5. Introduce more science based programmes	ST-strategies 1. Collaborate with giant Faculties 2. Establish relationship with different stakeholders 3. Establish outreach programmes to the community around the University
Weakness	WO-strategies 1. Train staff in different level to build faculty capacity 2. Motivate a research and consultancy coordinator in the faculty 3. Solicit fund and construct the faculty Block 4. Establish faculty own sources of fund 5. Motivate members of the faculty to respond to different opportunities 6. Reward innovative ideas 7. Establish a good relationship with Faculty Alumni	WT-strategies 1. Collaborate with Giant Faculties in submitting proposals. 2. Establish MoU with Giant universities in capital and business cities.

4.3 Strategic Plan

Based on the strategies which were identified in exploiting the strengths and opportunities, the strengths and threats, the weaknesses and opportunities, and weaknesses and threats, then the faculty vision, mission, core values, objectives, strategic objectives, strategies, targets and performance indicators were formulated as follows.

4.3.1 Faculty Vision

The vision of the faculty is to “Be a centre of excellence in research and consultancy assignments in the areas of computing science, engineering management, mathematics and statistics in the country and beyond”.

4.3.2 Faculty Mission

In order to achieve the vision, the faculty has a mission of “To provide opportunities for development, dissemination and acquisition of knowledge and skills in computing sciences, engineering management, mathematics and statistics through research and outreach services”.

4.3.3 Faculty Core Values

The faculty is committed to provide high quality services through exercising accountability, transparency, creativity and innovativeness, dignity and team work in delivering its services to its clients.

4.3.4 Faculty Objectives

From the SWOT and Strategy matrices, several faculty objectives were developed which were transformed to strategic objectives. For the achievement of the strategic objectives, several strategies were developed with their targets. In order to evaluate the achievement level of objectives, indicators for several targets were developed as present in the following tables.

Table 5: Enhance research and consultancy capacity in the faculty

Strategic Objective A: To improve research and consultancy capability in the faculty		
Strategy	Targets	Performance Indicators
A1.1: Train staff in different levels.	A1.1.1: 3 staff trained to PhD level by 2020.	A1.1.1.1: Number of staff trained to PhD level.
A1.2: Establish partnership with organizations/universities which provide volunteers.	A1.1.2 Staff capacity building trainings in research and consultancy assignments conducted annually.	A1.1.2.1: Number of trainings in research and consultancy assignments conducted annually.
	A1.2.1: Partnerships with organizations and universities which provide volunteers established by 2020.	A1.2.1.1: Number of MoU signed.
A1.3: Use postgraduate students in research and consultancy.	A1.3.1: Postgraduate students registered in the faculty and be used in research and consultancy assignments by 2019.	A1.3.1.1 Number of postgraduate student in the faculty registered and engaged in research and consultancy assignments.

Table 6: Enhance linkages and outreach services.

Strategic objectives B: To enhance collaboration and partnership between the faculty and giant faculties, faculty alumni, community and others stakeholders.		
Strategy	Targets	Performance Indicators
B1.1: Establish collaboration with giant faculties in science and technology.	B1.1.1: Collaborations with giant universities in science and technology established by 2020.	B1.1.1.1: Number of collaboration established.
B1.2: Link the Faculty with her Alumni.	B1.2.1: Faculty comprehensive alumni database developed by June 2018 and alumni in the database reached by June 2019.	B1.2.1.1: Data base of alumni and number of alumni reached.

(Continuing table 6)

Strategic objectives B: To enhance collaboration and partnership between the faculty and giant faculties, faculty alumni, community and others stakeholders.		
Strategy	Targets	Performance Indicators
B1.3: Establish and enhance partnership with private and public organizations.	B1.3.1: Organizations with potentials for partnership identified and partnership established by June 2020.	B1.3.1.1: Number of partnership established.
B1.4: Establish outreach programmes for the community.	B1.4.1: At least 2 outreach programmes established and provided to community by 2020.	B1.4.1.1: Number of outreach programme established.

Table 7: Improve research and consultancy winning rates

Strategic Objective C1: To increase the number of research and consultancy assignments won.		
Strategy	Targets	Performance Indicators
C1.1: Identify and respond to research and consultancy calls.	C1.1.1: Research and consultancy bids won by the faculty increased by 5% annually.	C1.1.1.1: Percentage increase in research and consultancy assignments.
C1.2: Motivate faculty members to respond to different opportunities.	C1.2.1: Establish incentive plans for motivating faculty staff who respond to different opportunities by 2020.	C1.2.1.1: Motivated staff.
C1.3: Award innovative ideas.	C1.3.1: Establish innovation awarding scheme for awarding innovative ideas by 2020.	C1.3.1.1: Awarding scheme and number of ideas awarded.

Table 8: Enhance government and administration in the faculty

Strategic objectivesD1: To enhance financial mobilization ability of the faculty.		
Strategy	Targets	Performance Indicators
D1.1: Solicit fund for faculty activities.	D1.1.1: Fund from different sources solicited for various faculty activities by 2020.	D1.1.1.1: Amount of fund solicited for various faculty activities.
D1.2: Establish faculty incubation Centre.	D1.2.1: The faculty incubation center established by December 2019.	D1.2.1.1: Number of incubation Centre.
D1.3: Enhance faculty management ability on resource mobilization.	D1.3.1: Capacity building training for enhanced financial resources mobilization to faculty management conducted by December 2019.	D1.3.1.1: Number of training in financial resources mobilization conducted to faculty management.

5 Conclusion

It should be understood that, faculties in university may perform poorly in terms of researches and consultancy assignments. The poor performance may emanate from some factors. Among the factors, prioritizing in teaching as primary function of the universities, poor morale of conduct research and consultancy assignment, lack of capacity to carry out researches and consultancy assignment, existing heavy teaching load among the staff, and top universities managements prohibiting faculty staff to carry consultancy are the major factors that affecting faculty performance in terms of researching and consulting. In this regard, it is very crucial for faculty to identify strategies that enable them to improve their performance in terms of research and consultancy. In order for a faculty to improve her performance, four results areas were identified where the faculty should improve them for improved faculty performance in terms of researches and consultancy assignment. The key result areas that were identified are enhanced research and consultancy capacity, enhanced linkages and outreach services, improved research and consultancy winning rates, and improved government and administration of the faculty. To achieve these key results areas, the following strategies were identified to be enablers of organizations to improve faculty performance in terms of research and consultancy assignments:

- A1.1: Train staff in different levels.
- A1.2: Establish partnership with organizations/universities which provide volunteers.
- A1.3: Use postgraduate students in research and consultancy.
- B1.1: Establish collaboration with giant faculties in science and technology.
- B1.2: Link the Faculty with her Alumni.
- B1.3: Establish and enhance partnership with private and public organizations.
- B1.4: Establish outreach programmes for the community.
- C1.1: Identify and respond to research and consultancy calls.
- C1.2: Motivate faculty members to respond to different opportunities.
- C1.3: Award innovative ideas.
- D1.1: Solicit fund for faculty activities.
- D1.2: Establish faculty incubation Centre.
- D1.3: Enhance faculty management ability on resource mobilization.

Therefore, it is expected that once a faculty adopt such strategies in addressing the identified 4 key result areas, the faculty performance in terms of research and consultancy will be improved.

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Introduction of an annual research day program in the Faculty of Pharmacy, University of Benin, Nigeria

ENITOME BAFOR

Abstract

The University of Benin is a Federal Government owned university located in the south of Nigeria. It currently has 13 faculties which includes the Faculty of Pharmacy. This faculty was one of the first faculties that began its programme when the university was commissioned although it took some years to evolve as a stand-alone faculty. Through the years, there has been a steady decline in the drive for research in the faculty and a number of factors had been identified as possible causes. Of the several interventions through which an active research culture could be revived in the faculty, I identified an open faculty research day as one of the possibilities. I was made the assistant dean of the Faculty in 2016 and with that appointment I became the first ever female assistant dean of the faculty since its inception. The IDC programme provided the drive for me to actualize my plans for a research day through its courses which were geared on management and instituting changes. This assisted me in using my position as assistant dean to actualize a faculty research day. The planning, outcome, benefits, and future suggestions of the first Faculty of Pharmacy Research Day University of Benin, Nigeria are presented. The research day was a huge success and has been ratified by the faculty of pharmacy board of studies to be an annual programme in the faculty.

1 Introduction and Background

The Faculty of Pharmacy, University of Benin, Nigeria was established in 1970. Since then, it has gone through several stages of restructuring and currently has six departments of learning. I was an undergraduate student of the Faculty, where I studied for 5 years. I then gained employment as an assistant lecturer into the Faculty in 2003 and have risen through the ranks to my current position of senior lecturer and Assistant Dean. In total, I have spent 21 years in the Faculty (my undergraduate and service years included), and I have observed the research abilities and capacities of the Faculty. In my time so far in the Faculty, there appears to be a declining drive for competitive research which may be a result of several factors. Some of the factors include, poor funding for research, lack of suitable equipment for proper research,

poor mentoring in the system, inadequate knowledge of research funding opportunities, and poor collaborative network with institutions outside the country. My project action plan (PAP) to institute an annual research day program in the Faculty of Pharmacy, was borne out of the need to address the poor research environment I had observed within the Faculty. The opportunity provided for the PAP by IDC enabled me to push through the need to implement an open research day. The discussion that follows will briefly examine the problem and suggestions for improvement. Also included are the PAP process from planning to implementation. The PAP findings will also be highlighted and discussed.

2 Problem Statement

In African institutions, existing limitations in the research environment has led to the increased frequency in the frustration of talented researchers. This has been one of the leading contributors to massive brain drain out of Africa (Sawyerr 2004). This can be extended as one of the reasons for the declining research drive in the faculty of pharmacy, University of Benin. Policies and measures that can therefore address the research limitations will lead to increased research.

Benefits of Increased Research

Increased research leads to increased knowledge which has a number of benefits for the society, such as improved quality of life and increases in domestic production (Sawyerr 2004). Every society should be equipped with the capacity to generate, acquire, adapt, and apply modern knowledge in order to gain the benefits of increased knowledge in the society (Sawyerr 2004). For this vision to materialize, the environment must be adequate to support good quality research and encourage locally relevant research. So, what is the logic underlying a research-active faculty? By being research active, faculty members become well-versed in the scholarly literature on which instruction is to be based, and because of their regular contributions to the discipline, they are considered adequately informed and knowledgeable of the topic (Altbach 2004). By being well-versed in their research, faculty members confidently provide evidence-based teaching, such that the teaching of the next generation is based on the best available research findings. It has been noted that investment in higher education can enhance a country's productivity (Gyimah-Brempong et al. 2006). Therefore, research-active faculty members who engage in applied research contribute to the society at large. Research-active faculty can also contribute to the recruitment of top graduate students, enhanced training of doctoral and master's students, better supervision of dissertations and theses, as well as provide enriched mentorship environments for both undergraduate and graduate education (Darley and Luethge 2015).

Building Research Capacity

With increased and improved research comes increased success in research and increased motivation for research. When research is considered successful, the compliments go to the individual researchers or research teams. It is common knowledge that such success is determined not only by individual brilliance, hard work, and team competencies but is also based on resources available to the researchers. Research capacity, therefore, takes into consideration two major and important components, a human (individual or team) component, and an environmental component both of which can determine the degree of success of researchers (Sawyer 2004). An open research day can therefore target the human component.

Possible Solutions and Benefits

Research capacity building can be obtained not just from the process of conducting research itself but from formal training such as research days. Therefore an institution that lacks continuous research activity cannot meaningfully speak about research capacity development (Mkandawire 1995).

These problems have led to the production of what is known as third generation of scholars of African origin (Mkandawire 1995). The first generation of African scholars were those educated somewhere in the 1960's who were privileged to be trained with some of the highest standards of learning and were sponsored by their governments both for study at home and study abroad (Mkandawire 1995). The second generation of African scholars are those who trained somewhere between the 1970's and 1980's and had some access to supplemental support for study abroad and at home but the conditions at home were so harsh that those who found opportunities to remain abroad, did so. These formed the generation of brain drain. Then came the third generation of African scholars who were trained from the late 1980's to the present time and got zero to minimal support and had to undertake most of their training at home at a time when the quality of research and the quality of teaching were declining sharply (Mkandawire 1995). One of the major problems identified for poor motivation of African researchers are lack of resources, lack of guidance and support for African authors (Anastassios and Ho 2014).

For research culture to be revived in African institutions, the third generation of scholars should be targeted in a decisive manner. Strategies should involve improving the research environment and capacity development, both institutional and general. The issues of funding, and the improvement of graduate study should also be addressed.

Inclusion in institutional policies

At the institutional level, one of the goals should be the restoration of research to its proper place in the strategic plans. It is, nevertheless, essential to keep emphasizing that, without ongoing research, meaningful research capacity building in Africa is inconceivable; and in the absence of such capacity, the generation and application of new knowledge—the condition for all development will continue to fall short of the

requirements of the 21st century (Sawyer 2004). My PAP was intended to address this by showcasing the benefits of a faculty research day to the university's administration such that an annual faculty research day is ratified and implemented into the University's or faculty's policy. Adequate policies may involve that research should be such that is concept led and related to teaching. Certain topics therefore for capacity development programmes in the Faculty research day can include: research leadership, provision of guidance to staff on opportunities for getting funding for research projects; expertise development on intellectual property and other ethical issues; and how to market research to the public (Association of Commonwealth Universities 2001).

Researcher Networks

An added benefit of an open research day within a faculty is researcher networking. Networking with colleagues has been reported to be vital for career success (Wolff and Moser 2009). Networking promotes exchange of ideas and opens collaboration opportunities which can assist in motivating researchers in our setting to improve research drive.

From the views expressed in the preceding discussion, institution of an annual open faculty research program even in limited resource settings has the potential to stimulate and improve research.

3 Project Action Plan to institute an open faculty research day

The general objective of my PAP included the following:

To institute an annual research day program within the faculty of pharmacy, University of Benin, Nigeria that aims to build and strengthen research capacity within the different departments of the faculty;

The specific objectives of my PAP are as listed:

- a) To motivate researchers within the faculty;
- b) To bring awareness of the faculty's research to companies and interested organizations;
- c) To initiate collaborative inter- and intra- faculty research;
- d) To promote an active research culture;
- e) To highlight research strengths and weakness that can be addressed.
- f) To create an incentive for research;
- g) To promote improved funding for research;
- h) To promote improved mentorship within the faculty

4 Methods, Challenges and Implementation

The planning process began with informal notification of the idea to the Dean of the faculty, heads of department and potential committee members. It was also necessary to inform the Deputy Vice Chancellor informally of the idea, the reason behind the idea and the potential benefits. This process took longer than anticipated as it was oftentimes difficult to get meeting appointments with the administrators. Getting the faculty to own the process was not a problem as they were made to realize it was for their overall benefit. As soon as this was achieved and a formal constitution of the committee was released, it was quite fast-paced moving forward. I was made the Chairman of the committee and one key thing that worked was to ensure that the individuals on the team were people who shared similar vision for the program and that they were also people who would commit to the program. Having good people management skills is one primary skill to have and even with that it can still present with its challenges. Learning to manage the twists and turns that arise when managing people while working towards a goal is highly beneficial.

Another challenge was getting the funds to run the project. This was probably the most difficult aspect of planning the program. With shortage of funds for running regular programs in the institution, it was a tall ask to divert funds for the faculty research day which was not part of the University's policies. Fund acquisition eventually became the task of the committee members and it was no easy task. Being the first time the program was being done, requesting for registration fees was ruled out in order to encourage participation. The planning process followed the processes described in Table 1–4 below. With funds coming in from philanthropists and alumni, we began announcements of the program, printing invitation cards, program posters, program booklets, name tags for attendees, and award certificates. We were also able to set aside prize funds for award winners in all categories. Twelve awards were scheduled for the 6 departments in the faculty and included best oral and best poster presentations from each department. Additionally, we budgeted for meals for all attendees and made provision for a generating set in the event of electricity failure.

Another challenge we faced was getting researchers motivated to submit abstracts and participate. We had to fix several deadlines for abstract submissions due to low abstract submissions at the initial stage. This necessitated an intervention which involved scheduling meetings with each department on separate days. In these meetings, all staff and postgraduate students of the respective department were invited and we had to communicate to them the reason and benefits of the open research day using personal experiences. We also invited them to share their fears and concerns to which we responded to. This intervention proved highly successful as we saw an increase in the abstract submissions after each meetings. It is therefore important to have back up plans tailored to the setting should the initial global plan fail.

The day eventually held on the 20th of February, 2018. It was well attended and went smoothly. The university administrators praised the event and pledged support

for the top award winners. They also encouraged that the event should henceforth be an annual event. Program evaluation questionnaires were distributed at the end of the program.

The committee met for the last time after the program, to evaluate the program, discuss our strengths, weakness, threats and opportunities. Opportunities for improvement were noted. The final report of the program and planning process was prepared and submitted to the Dean. The report was read at the Faculty Board of studies where the program was ratified as an annual faculty event.

Table 1: Key task A of the Project planning

Key task A: Involve the Dean and Heads of Departments	My role?	Who else?	How to measure?
Task 1: Discuss and obtain approval from the Faculty Dean about my PAP	Provide sufficient information to the Dean about my PAP	Dean	Written briefs
Task 2: Meet with Faculty Heads of Department to discuss the project and obtain their support and co-operation for the project	Intimate and discuss the benefits of the PAP with the HODs	Heads of Department	Written briefs
Task 3: Form a 10-man team to deliberate and develop a working plan for the project	Objectively select and recruit willing team members	Selected team members	Memo and minutes

Table 2: Key task B of the Project planning

Key task B: Analysis, planning and programme development	My role?	Who else?	How to measure?
Task 1: Gather detailed information about annual research day programs in different universities at home and abroad	Co-ordinate information gathering	Team members	Minutes
Task 2: Discuss and draft a feasible program of activities for the day	Co-ordinate discussions	Team members	Minutes
Task 3: Based on the draft program of activities, discuss and determine the structure of the activities e.g. oral and poster presentations layout, timing for each presentation, judges selection, determine criteria for and number of awards	Co-ordinate discussions	Team members	Minutes, evaluation of drafted programs and suggestions
Task 4: Draft templates for poster and oral presentations, allocate officers in charge for collating each department's submission in preparedness for the day	Co-ordinate discussions	Team members	Minutes, evaluation of drafted programs and suggestions
Task 5: Determine budget, potential sponsors, guests to be invited, hall(s) to be used	Co-ordinate discussion, ensuring that informed selections are made	Team members	Minutes, evaluation of drafted budget and suggestions

Table 3: Key task C of the Project planning

Key task C: Finalization and Implementation	My role?	Who else?	How to measure?
Task 1: Finalize program and structure of activities and prepare an official report. Determine a suitable date for the inaugural FOPARD	Co-ordinate discussions and assist in report preparations	Team members	Minutes, assessment of report
Task 2: Present report/draft to the Faculty Dean for approval	Initiate meeting and present report/draft	Team members	Written Minutes
Task 3: Present report to the Deputy Vice Chancellor academic and the Vice Chancellor for approval	Initiate meeting and present report/draft	Team members	Written Minutes
Task 4: Begin announcements, application for sponsorship.	Ensure that activities meet with designated time periods	Team members	Printing and distribution of flyers, announcement, written letters for sponsorship solicitation via mails and SMS messages

Table 4: Key task D of the Project planning

Key task D: Reflection on the experience of implementation of the programme	My role?	Who else?	How to measure?
Task 1: Meeting with committee to determine how the assessment of the evaluation forms should proceed	Co-ordinate discussions	Team members	Written Minutes
Task 2: Distribution of evaluation forms among team members for assessment and report	Co-ordinate distribution	Team members	Written Minutes
Task 3: Draft of report summarising outcome of evaluation assessment	Participate and assist in report drafting	Secretarial team members	None
Task 4: Final meeting to finalize report and address other concerns arising from the program including measures to ensure continuity.	Co-ordinate discussions	Team members	Written Minutes
Task 5: Presentation of report to the Dean of the Faculty of Pharmacy	Present report	Team members and the Dean	Written Minutes
Milestone D: Report on evaluation of the programme achieved and presented to the Dean.			

5 PAP Findings

The research day involved staff and students of the Faculty of Pharmacy. In attendance were also undergraduate students but they did not participate in research presentations. Staff and postgraduate students in attendance totalled about 85 while undergraduate students present equalled 93. This gave a total of 178 attendees for the research day. Forty (43) research presentations were selected for that day. The event was well attended by the principal officers of the University administration and in attendance were the Vice Chancellor, the Deputy Vice Chancellor Administration and the Librarian. Also in attendance were the heads of Department of the six departments in the Faculty. Also in attendance was a representative from the government of the state (Dr. Tom Obaseki). There were three guest presentations on the topics, Research Grant Writing, Mentorship in Academia and a presentation by an online publisher. Ten (10) awards were disbursed at the end of the event to the best presentations and included 5 awards for oral presentations and 5 awards for poster presentations.

5.1 Program Evaluation

The analysis of the research day revealed that about 94.74% of staff agreed that the day led to an increased understanding of research activities across the Faculty while 94.12% of students agreed as well. This shows a large support for the research day.

Faculty staff (49.09%) and students (60.30%) agreed that the day provided opportunities to network and form disciplinary collaboration. The small percentage seen with staff on this point may have been due to the lack of short breaks during the day and maybe because the program was limited to a one day event.

Faculty staff (75.44%) and students (89.70%) agreed that the day improved communication and helped to build the research community within the Faculty. This again shows the support for the research day and an understanding of the benefits the day brings for research communication.

Assessment also revealed that Faculty staff (61.56%) and students (89.49%) agreed the 'awards' initiative will motivate research in the Faculty. This also supports the continued use of awards in the research day.

Overall 87.74% of staff and 85.29% of students found the day enjoyable with 92.98% of staff and 86.76% of students agreeing for more research focus in subsequent programs and 84.21% of staff and 88.24% of students requesting for a booklet on researchers profile in future programs.

5.2 Guest Lecture Evaluation

Assessment showed that 91.88% of respondents agreed that the topics chosen were adequate and 85.70% agreed that the speakers were motivating. This highlights the desire of Faculty staff and students to improve on mentoring and grant writing. Respondents additionally suggested inclusion or elaboration of the following topics in future programs: mentorship, strategic planning, challenges of research and teamwork. There was also a suggestion to invite guest speakers outside the faculty.

5.3 Research presentation evaluation

Regarding research presentations made on the day, it was suggested that the number of oral presentations be reduced and more time provided to presenters. It was also suggested that undergraduate students be allowed to make presentations. Respondents overall considered the lectures and the research presentations as highlights of the day.

5.4 Registration Fee

Respondents were asked if they would be willing to pay a registration fee to improve the program and 42.09% of staff agreed while 50% of students agreed. This shows the poor willingness to support the program financially overall but more from the faculty staff.

5.5 Other suggestions for Improvement

Respondents had the following suggestions for improvement of the research day: exhibition section to showcase the Faculty's research products, more pharmaceutical companies be invited, the event be open to other faculties, and the event be scheduled for two days or one week instead of one day.

6 Conclusion

Researchers in my institution clearly are 'hungry' for research improvement and institutions must strive to improve and develop their researchers as well as the conditions in which they work. This implies that there is a dire need for the provision of an enabling environment for researchers in African institutions. One step forward is utilizing and maximizing what is possible under the current research conditions. Activities such as research days can assist to help researchers concentrate and focus on what is achievable under the current circumstances that can likely yield the most effective results. Funds for the open research day are an important consideration. It is suggested that some funds be made available by the PAP initiators (DAAD and DIES) to assist in the implementation of such new programs. Overall, the PAP provided a means and a drive to make relevant changes in my faculty and develop the idea of an open research day which would have remained as just an idea.

Acknowledgement

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Research management in Cameroon Higher Education: Data sharing and reuse as an asset to quality assurance¹

GRATIEN G. ATINDOGBE

Abstract

Data sharing and reuse (DS&R) is seen to be a fundamental step towards sustainable quality assurance (QA) in research, and consequently a crucial part of research management (RM) in the higher education system. This chapter examines the concept of DS&R in research in Cameroon, links it to the notion of QA, and demonstrates that DS&R must become a good practice in the research continuum in Cameroon.

1 Introduction

Nowadays, information and communication technologies (ICTs) constitute one of the major mechanisms used to create and manage knowledge and data in almost all domains of human activity. They are essential in our daily lives, they shape our minds and vision of the world and “increase our ability to learn about more human behaviour” (UN Global Pulse, 2012: 6). New media, as well as new ICTs are important within the academic context in many ways, e. g.:

- as a means or medium of communication, administration and teaching;
- as instrument and focus for research in various academic disciplines;
- as a means or medium to create, organize, manage and share information or data.

The systematic collection, interpretation and evaluation of data for contributing towards science, i. e. scientific research (Çaparlar & Dönmez, 2016: 212), is a prerequisite to sound development in any country of the world, and therefore has a preponderant role in the strategic management of the nation. In fact, research is for any

¹ This paper is an offspring of my ongoing Project Action Plan (PAP), proposed during the DIES International Deans' Course “Africa” 2017/2018. The DIES-IDC is a training I got from the Osnabrück University of Applied Sciences between June 2017 and February 2018 on HE management. The PAP I proposed was entitled “Developing an online Faculty Research/Publication Repository”. This paper is the result of the flaws I noticed in the execution of this PAP. I wish to seize this opportunity to extend my profound gratitude to Prof. Dr Peter Mayer and his team for the opportunity offered to me to get acquainted with issues of HE Management, as well as the possibility to contribute a paper to the present volume. My heartfelt gratitude equally goes to the Marc Wilde whose careful review of the initial paper led to this improved version.

nation of the world, what blood is for the body. In Cameroon, two officially recognised institutions are in charge of research and innovation in the country: the Ministry of Scientific Research and Innovation (MINRESI, from the French acronym *Ministère de la Recherche Scientifique et de l'Innovation*) and the Ministry of Higher Education (MINESUP, from the French acronym *Ministère de l'Enseignement Supérieur*). The main actors of MINESUP², the teaching body, are called “teachers-researchers” (or “enseignants-chercheurs” in French), as their role in the university setting is not only to impart knowledge but also to involve in scientific research. This is clearly spelled out in their working contract: “The contracting party is recruited as an Assistant-Lecturer of [...]. The contracting party shall be required in this capacity to do teaching, research and related duties”, as well as the mission statements of the eight state-controlled universities. These are two examples from the University of Buea (English-speaking university) and Maroua (French-speaking university) respectively:

The mission of the University of Buea is to provide opportunities for quality education through teaching and research in an environment that is conducive to such pursuits and in ways that respond to market forces. [...]. Its teaching and research programmes emphasize relevance, encourage tolerance and promote creative, critical and independent thinking (<http://www.ubuea.cm/about/>).

The missions of the University of Maroua:

- To develop and transmit knowledge;
- Raise the university to the highest standard and pace of progress and the cutting edge of culture and research (my translation);
- [...]. (<http://www.univ-maroua.cm/>).

The main role research plays in state and private universities in Cameroon constitutes a reaction and alignment to the general policy on research clearly ascribed in the various laws governing the practice of higher education in Cameroon. The decree No. 2012/433 of 01 October 2012 organising higher education (HE) in Cameroon states that the Ministry of Higher Education is responsible for the sustainability of the traditional missions of higher education as well as the promotion and diffusion of university research.

In an environment of rapid development of information and communication technology (ICT) like the one we are living in presently, research has proven to be an important asset to economic and social development. Consequently, African universities must fully incorporate best practices research in their strategic management. DS&R, thanks to the phenomenal growth of the ICTs, is one of those professional and scholarly procedures that are generally prescribed as effective in research. Yet, the sharing of research results seems to be a daunting task among teachers-researchers in the Cameroon university system. Despite the established benefits of DS&R in universities with well-established research traditions, there is still no awareness on the necessity to share data. Moreover, no standardised methods as well as official,

2 My interest in this paper is on Cameroon Ministry of Higher Education.

well-planned structure or mechanism ensure the dissemination and sharing of research results amongst researchers as well as with potential users.

The purpose of this paper is to discuss DS&R as a good-practice and asset to quality research, in relation to the state-of-affairs of research activities in Cameroon higher education (CHE). I introduce DS&R as a potential booster to research and quality assurance in both teaching and research, as good teaching goes hand-in-hand with good research. More specifically, I unveil the actual tradition of DS&R, as well as the patchy attempts for data sharing in CHE. By doing so, I make visible colleagues' and stakeholders' perceptions of DS&R practice and service, and contribute to the on-going debate on DS&R, quality assurance and higher education management in Africa using the experience of research activities in CHE.

2 What is Data Sharing and Reuse and what is it good for?

DS&R is a system whereby data is shared and (re)used in a structured manner in the scientific community in order to encourage scientific enquiry and debate and also promote innovation and potential new data creation and uses (Cragin, Palmer, Carlson, and Witt, 2010; Borgman, 2012; Guedon, 2015). DS&R is actually an old practice in scholarship, but which has gained momentum today thanks to the rapid growth of ICTs in all sectors of human activities. Guedon (2015) recognised that fact when he declared, "Across the centuries, researchers have learned to share their papers, now they must learn to share their data." Today more than ever before, the scientific community widely accepts data sharing and considers this practice as a crucial activity for scientific research. The benefits of DS&R have been widely acknowledged in the literature. Indeed, OECD (2015: 26), following Zahedi, Costas and Wouters (2013), admits that sharing data:

- allows verification of scientific results but also re-analysis of data for different purposes from the ones originally conceived, promotes competition of ideas and research (Gardner et al., 2003);
- can increase the citation rate of scientific papers (Piwowar, Day & Fridsma, 2007; Piwowar and Vision, 2013);
- fosters collaboration (Piwowar and Chapman, 2008; Brase et al., 2009);
- allows the use and reuse of data from other researchers and individuals (Groves, 2010);
- reduces duplication of effort from different researchers attempting to collect the same data sets (Kowalczyk and Shankar, 2010);
- foster good scientific behaviour (Mooney, 2011);
- protects against faulty behaviours and fraud in science and research, and may contribute to improve data collection and management (Grieneisen and Zhang, 2012).

Furthermore, the UK Data Archive suggests a number of reasons for sharing and enabling reuse of data:

- encouraging scientific enquiry and debate:
- by encouraging the improvement and validation of research methods
- by maximising transparency and accountability through scrutiny of research findings.
- promoting innovation and potential new data uses:
- leading to new collaborations between data users and data creators
- reducing the cost of duplicating data collection
- increasing the impact and visibility of research
- providing credit to the researcher as a research output in its own right
- providing great resources for education and training. (ANDS, 2018).

As for the reusability of research data, it is the practice whereby a set of data collected by a first person or people, is reused by someone else or other people. Thanos (2017, p. 1) states that data reuse allows the questioning and reanalysis of evidence, reanalysis of old data in the light of new data, reproduction and verification of results (to find out whether or not a researcher comes to the same conclusions as the producer of the data). Data reusability minimizes duplication of effort, and builds on the work of others. It has four main dimensions: *policy*, i.e. a set of principles or strategies adopted by the organization responsible for data submission and usage; *legal*, a binding regulation on the sharing and reusability; *economic*, on the reuse cost and economy, and *technological*, the design of appropriate software reuse technology.

Dwelling specifically with scientific publications and considering the research conditions of African universities, Arzberger et al. (2004) admit that “data sharing is especially important for researchers in developing countries who have fewer possibilities to undertake expensive and time-consuming data collection efforts” (as cited in OECD, 2015: 26). Yet, despite the amount of data created in Africa, DS&R is still not a practice in our universities.

3 DS&R, Quality, and Quality Assurance in HE

The Bologna initiative consecrated the European ministers of education’s determination “to commit themselves to supporting further development of quality assurance at institutional, national and European level”, emphasizing on “the need to develop mutually shared criteria and methodologies on quality” (Berlin Communiqué 2003). Since then, the topical themes of “quality” and “quality assurance” in HE have been at the centre of constant academic debates. The best practices or standards developed as a follow-up to this determination to achieve quality education through “quality” and “quality assurance” is geared towards the three core missions of universities, i. e. teaching and learning, research and public service (Kivistö and Pekkola, 2017, p. 1), and more recently, quality administration. In the few lines below, I will briefly exam-

ine the connection between quality assurance (QA) and the concept of DS&R, after defining the term “quality” in the context of HE from three perspectives: teaching/learning, research and administration/management (TRA). I consider the concept of “university as a supplier of commodity” (public service), as part of quality TRA.

3.1 Quality in Higher Education

Quality is primarily an integral part of higher education. Considering the evidence that knowledge produced in universities must and should always be the plinth onto which societal transformations rest, in a time when institutions’ academic reputation is a worldwide concern (manifested in permanent ranking), quality must be at the centre of all activities namely TRA. The seminal work of Harvey and Green (1993) as well as (Harvey, 2006) proposed five dimensions of quality in HE: “exceptionality or excellence, perfection or consistency, fitness for purpose, value for money, and transformation” (Kivistö and Pekkola, 2017, pp. 6–8). With the effects of socio-economic development pressures on African countries, and given the role of African universities in the overall transformation of Africa as defined by African politics, quality TRA in African HE has “become a strongly politicised issue”, as opined by Crebbin (1997, para 1).

Quality teaching i. e. “the use of pedagogical techniques to produce learning outcomes for students” (Hénard and Roseveare, 2012, p.7), is crucial and can be achieved through a number of policies as part of institutional management. These include: awareness raising on quality teaching, development of excellent teachers, engagement of students, building of organisation for change and teaching, alignment of institutional policies to foster quality teaching, highlighting of innovation as a driver of change, and impact assessment” (Hénard and Roseveare, 2012, p. 5). As for quality research, it is seen as the scientific process encompassing all aspects of study design including judgment regarding the correspondence between the methods and questions, the choice of subjects, the measurement of outcomes, the protection against systematic and non-systematic bias, and the inferential errors (Boaz & Ashby, 2003; Lohr, 2004; Shavelson & Towne, 2002). Among the prominent characteristics of good quality research (robust, ethical and standing up to scrutiny), “informing policymaking” (UKCCIS Evidence Group, 2015), i. e. for example contributing to the socio-economic development of a country, is of great interest to this study as it has a direct link to quality assurance as we shall demonstrate shortly in the lines below. Finally, quality administration in higher education for its part, has also been at the centre of scholarly debates as well as in political circles. CHE is a typical example where the term “administration” in State Universities has a complex definition. In our universities, the traditional dichotomy between academic and administrative staff has become completely hazy. Indeed, it has become a norm that academics are appointed or elected to participate in almost all administrative activities, including, heads of department, heads of divisions of teaching, research and publication, deans, directors, Vice-Chancellors, etc. In fact, it seems that some of the activities of HE demands that type of blend, and the convocation of various competences from the ad-

ministrative and academic staff is a necessity. Kivistö and Pekkola (2017) rightly purported that the administrative function in universities should be seen as a diverse assemblage of tasks and activities, ranging from basic secretarial work and maintenance services to highly skilled specialist and professional activities (p. 9). Some of the administrative tasks indispensable for the smooth running of the university include:

research and planning, student services, general administration, study administration, human resource management, financial administration, legal advisory services, research and innovation services, as well as more entrepreneurial activities such as alumni affairs, marketing and public relations and business development. In addition, supporting services such as library, ICT, capital and property administration, operations and maintenance can equally be considered as elements of administration (Szekeres 2004; Gray 2015 cited by Kivistö and Pekkola, 2017, p. 9).

Considering these ranges of activities, ensuring quality administration is synonymous to getting the right people for the right tasks in order to guarantee efficiency and effectiveness.

In short, on the notion of quality in higher education, my take is that quality TRA in higher education matters to stakeholders, and consequently constitute a permanent challenge for the latter at a time when the African higher education sector is under the pressure of addressing the societal challenges of African milieus. Having briefly discussed the concept of quality in higher education, I now turn to operations and activities aiming at ensuring quality in HE.

3.2 Quality assurance in Higher Education

Quality assurance (QA) is a system typically consisting of a number of connected aspects serving several purposes such as accountability, control, evaluation, measurement and quality improvement (Matei and Iwinska, 2016, p. 19). The Finnish Higher Education Evaluation Council defines QA as “the procedures, processes or systems used by HEI to safeguard and improve the quality of its education and other activities” (FINHEEC, 2008). These two definitions give the pretext to suggest that assuring quality in HE entails assuring quality at the three levels of TRA against the criteria of accountability, control, evaluation, measurement and quality improvement as discussed above. QA is a matter of individual and collective responsibility, as well described in the four components proposed by NAAC and COL (2007, cited by Kahvecia, Uyguna, Yurtseverb, İlyasb, 2012, p. 162):

1. Everyone in the enterprise has the responsibility for enhancing the quality of the product or services;
2. Everyone in the enterprise has the responsibility for maintaining the quality of the product or services;
3. Everyone in the enterprise understands, uses and feels ownership of the systems which are in place for enhancing and maintaining quality;
4. Management regularly checks the validity of the system for checking quality.

By individual, I refer to teachers, researchers, administrators in their daily duties, and by collective I refer to the department, the faculty, the university and the ministry as whole entities.

QA in teaching/learning entails the monitoring of teaching through effective teaching using appropriate didactic material, putting the learner at the centre of the teaching/learning process and guiding the latter. This can be called “performance” and it is supplemented by the consciousness to make teaching permanently better for optimal learning, i. e. permanent improvement. According to the University of Readings (2019, para 1), QA in research (QAR) encompasses all methods, systems and resources that are used to give assurance about the care and control with which research has to be carried out. QAR is typically concerned with:

- the responsibilities of those involved in the research
- transparent project planning
- the training and competence of research staff
- facilities and equipment
- documentation of procedures and methods
- research records
- the handling of samples and materials

As for QA in administration, the ultimate goal of quality control in administrative activities in HE is to improve in performance and get the desired results, the same way as what obtains in teaching and research. Indeed, QA in administration implies a number of tasks including defining administrative functions and desired performance levels, specifying performance standards and measuring performance in an objective and consistent manner, training where performance is poor, and implementing controls to maintain quality (Markgraf, 2019). In short, those high quality activities in the university administration are aimed at increasing efficiency, improving output and achieving set goals.

Higher institutions of learning that are keen to QA have education and research policies set out in manuals for QA in TRA. Improvements in all the three aspects are monitored during planning and control cycles.

3.3 Quality assurance and DS&R in CHE

In a world where “quality” has become one of the main concerns of institutional management and of all the other stakeholders of HE, debates, ideas, reflections on best practices based on empirical data definitely constitute a source of inspiration and basis for exchanges between highly advanced and less advanced societies. Consequently, storing data in an organised manner for the ultimate goal of sharing is an asset of international cooperation and collaboration. A universal alignment on a set of scientifically argued best practices in TRA, in quality and QA in HE can only be beneficial for science, socio-economic well-being and consequently for the improvement of human conditions. If empirical data on quality and QA on TRA are stored in one or more servers in the network with the intention of sharing, the spreading of

best practices in TRA becomes effective, efficient and sustainable. In effect, sharing data at these three levels permits verification of scientific results, increases the citation rate of scientific studies on those fields of research, fosters collaboration, and allows the use and reuse of data.

Thus, the link between DS&R and QA lies in the evidence that each of the four components of QA need the four main dimensions of DS&R: policy, legal, economic and technological (Thanos, 2017), for their optimal realisation. For convenience's sake, I have adapted the four components of QA to the context of HE:

1. Everyone in the university has the responsibility for enhancing the quality of TRA.
2. Everyone in the university has the responsibility for maintaining the quality TRA.
3. Everyone in the university understands, uses and feels ownership of the systems which are in place for enhancing and maintaining quality.
4. Management regularly checks the validity of the system for checking quality (curled from NAAC and COL, 2007, cited by Kahvecia et al., 2012, p. 162).

The figure below summarises the connection between DS&R and QA in HE:

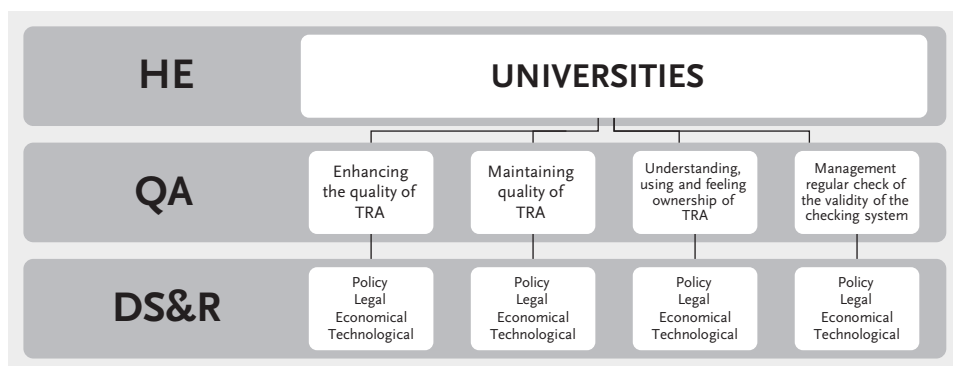


Figure 1: The connection between DS&R and QA in HE

In other words, the four dimensions (policy, legal, economic and technological) of DS&R are part of the main components and boosters of QA. Said differently, DS&R is the plinth onto which QA rests in the HE milieu. A well-defined policy, a concerted legal framework, an economical strategy on costs and a well-planned technological infrastructure of DS&R permit to enhance and maintain quality in TRA. Likewise, they enforce understanding, usage and feeling of ownership in TRA, and condition management to check the validity of the checking mechanism regularly. Thus, it is a fact that DS&R is central to sustainable QA in TRA in the HE system. As indicated before, issues of quality and QA in TRA have been at the centre of academic debate in recent years, with the ultimate goal of having a more functional and cost effective HE. Research on how to improve on one's institution's academic repu-

tation (e. g. through working hand-in-hand with students, having a brand strategy, institutional engagement), on how to get strong internal and external quality assurance systems, etc. can be shared and reused in a systematic way to avoid reduplication, waste of time, energy and money. African countries are still lagging behind in this industry of “new” knowledge, and my study can be seen as a step toward raising awareness of scientists interested in African studies.

4 Research and funds in CHE: From paradox to cynicism

Cameroon hosts 121 higher learning institutions, divided into eight state-controlled universities³ and 113 private institutions⁴ (Campus Jeune, 2018). Private universities in Cameroon must be duly accredited by the MINESUP, which follows up, controls and evaluates their functioning. Thus, private universities in Cameroon are placed under the tutelage of the MINESUP. The latter delegates this privilege to its state universities by asking them to control the contents and quality of teaching and research of the private institutions and co-sign their certificates.

As indicated earlier, research is supposed to take a big share in the portfolio of both state-controlled and private universities, under the impulse of the MINESUP. Consequently, to mark the importance of research in state universities, the position of Deputy Vice-Chancellor in charge of Research, Cooperation and Relations with the Business World (in the Anglo-Saxon universities), and Vice-Rector in charge of Research, Cooperation and Relations with the Business World (in the French tradition universities) was created in all state universities. This top-management position is to assist the Vice-Chancellor and Rector in the area of good governance in teaching and research. Thus, the DVC/RCB (or VR/RC) is to ensure the effective practice of research in our universities, be they state-controlled or private. In all state universities therefore, there are units dedicated to research activities. In Buea, for example, to cite only that case, the research unit is a powerful wing of the university structure:

The Division of Research and Publications is one of 3 central administrative units under the supervision of the Deputy Vice-Chancellor in charge of Research, Cooperation and Relations with the Business World. The unit is a common feature of the organisational structure of all public universities in Cameroon, who have the mandate to support the development, promotion and dissemination of research for development. It serves as the Secretariat of the University of Buea Scientific and Research Committee. (University of Buea [UB], 2018, Presentation of the Division, para. 1).

3 The eight state universities are divided into English-speaking or Anglo-Saxon universities, i. e. Buea and Bamenda (created in 1993 and 2011 respectively), and bilingual universities (English and French are used), i. e. Douala, Dschang, Maroua, Ngaoundere, Yaounde I, Yaounde II created in 1993, except Maroua in 2008.

4 Many more universities are private in Cameroon. However, we are interested only in those duly accredited by state i. e. the MINESUP.

The mandate of the research department of the University of Buea, as well as the ones of all state universities, is to ensure that research is effective in CHE. In Buea for example, their portfolio is to:

- search and inform staff about funding and capacity building opportunities relevant to research development,
- plan and deliver consultation and capacity building activities,
- monitor research activities to ensure compliance
- management grants
- track research outputs
- report research to inform strategic management and enhance uptake
- organise dissemination activities targeting internal and external stakeholders
- promote staff publication.

Thus, considering the organisation of research activities in CHE (from the Ministry of HE to its decentralised structures like the public and private universities), at least on paper, one would not be exaggerating to say that research activities should be flourishing in Cameroon. Unfortunately, the situation on paper is far from the reality.

The very first handicap of research in CHE, and definitely the most important, is funding. Money is the sinews of research! Conducting research without or with very little funding is as good as not doing research at all. Unfortunately, the lack of money to do research in CHE is just a tiny part of a more complex and general problem of funding tertiary education in the country. In Cameroon indeed, the funding of higher education has mainly been the responsibility of the state since its inception in 1972, till its profound reform in 1993. Unfortunately, for many years now, CHE has been facing an unprecedented financial crisis that is clearly seen in the increasing imbalance between the need for quality education and the limited resources available. It is so obvious that universities in Cameroon do not have sufficient financial resources to function (Pokam, 2016: 105). This is the case for both the state and the private higher learning institutions, which are highly dependent on subventions from the government. When revisiting the main issues plaguing higher education in Africa, Saint (1993: 6), as cited in (Pokam, 2016: 105), states: « à des degrés divers, on considère généralement que les principaux problèmes de l'enseignement supérieur en Afrique sont la qualité, l'utilité pratique, le financement, l'efficacité, l'équité et la gestion » (at various degrees, the main issues plaguing higher education in Africa are quality, practical utility, financing, efficiency, equity and management [my translation]).

In short, funding is a major handicap in the smooth running of CHE, as the pot of money the government puts at the disposal of the universities for their function is just too small, making the chances of having quality research a challenge to the universities and their stakeholders. Although there is provision in the budget of the MINESUP to support academic research, the pressure is so high that the line allocated for research is used for other pressing issues that cannot wait. Oh, yes, re-

search can wait, or if you really feel like doing research, then look for your fund! In other words, universities are to generate their own research funding, and since they fail to do so, individual teachers-researchers have to take the responsibility of applying for research funds out of the country. The point I am making is that there is no pot where research money is kept for individual or team researchers to compete for in the country. In “The University of Buea Research Policy and Management Guide 2007–2012”, the section on funding reads thus:

- Create a University of Buea Research Fund and develop strategies to sustain it;
- Progressively step up research funding to attain 15 % of the total budget of the University by 2012;
- Develop strategies to step up private sector funding of University research to at least 30 % of the total research budget over the next 5 years;
- Develop and implement guidelines for the measurements of research output. (University of Buea, 2008, p. 2).

Thus, it is obvious that each university must thrive to canvas for funds for research. The irony of the matter is that despite this nice plan to raise funding for research for the University of Buea scientific community, couched in beautiful words, nothing of such has ever been done, and 10 years after the set deadline, no evaluation was made to take stock. In such an environment, the teachers-researchers of the University of Buea have no other choice than to battle to secure funds for research. The irony of the situation is better appreciated when it is recalled that the main condition for promotion in CHE is publishing in national and international peer-reviewed journals. Thus, the same system asking you to publish or you perish, has no funds for you to do research. Is that not cynical?

Briefly, individual teachers-researchers in CHE will not do research if they do not have grant application skills to compete at international platforms. In such an ecology, what can be the take of DS&R?

5 DS&R in CHE: A myth, or the reality of a myth

Let me go straight to the point. The nice discourse of the Ministry of HE on the importance of research, and the necessity for good and sustainable research for the development of Cameroon, has no provision for the contemporary issue of sharing and reusing data for the benefit of the Cameroon scientific community. Thus, despite its multiple benefits, the practice of DS&R does not exist in a systematic way in CHE. Researchers do reuse data, but without knowing that they are performing a task that has evolved to the level of becoming a standardized practice supported by the ICTs, and constitute, nowadays, a guarantee for adding value to existing data. In other words, DS&R is done the traditional and cumbersome way which consists of asking whoever has a copy of an article to make it accessible to you. Therefore, a hard copy of a publication can be sent to colleagues via post, personal visit or through an inter-

mediary. One can also use floppy disks, CD-rooms, USB keys, etc. to pass the data, transfer the data from one computer to another using a USB cable, or email the paper. For colleagues who have the abilities and access to modern technologies, they can download (illegally posted) publications of peers, unfortunately, in total disregard of the issue of copyright, and without permission from the author or publisher. Yet, the kind of research data sharing we are advocating concerns data stored in servers in university networks with a well-organised structure of regulated access embedded in a database management system (DBMS). Nowadays, this is possible thanks to the sound advances in software, hardware, and wireless connectivity. Such a system will enable the sharing of research information between researchers, data managers and institutions on a wide range of research disciplines and environments. It will also help to produce high quality research data with the enormous potential for long-term storage and use. Even information sharing between computer networks, although not the ideal, will be a good start. But the system we aim at is one where files are easily distributed via access to digital media, such as computer programs, multimedia (audio, images and video).

Presently, such a well-oiled research data sharing machine does not exist in CHE. Fortunately, the four main dimensions of DS&R, i. e. policy, legal, technological and economic (Thanos, 2017), call for well-planned strategies geared towards reversing the lukewarm attitude of the major stakeholders. The question of the creation and optimization of DS&R in Africa is a package that contains various solutions to a number of related issues ranging from attitude, mentality to infrastructure and technology. Speaking about attitude, Pier Paolo Di Carlo, a professor of anthropology of the University of Constance declares:

Hey, for my experience in Cameroon, I think one main problem is fear to share because then ideas can be stolen with no credit given to who initially shared the idea/data. So, probably instituting a safe way to get one's name associated with some data (if one wants to) could be a prerequisite for inviting people to use it a lot to get visible. I think the problem of engagement of contributors is central (pc).

However, it will be inaccurate to contend that data is not being shared using technology, at least at a basic level. There is localized and intermittent data management and documentation practices of researchers, but generally in partnership with colleagues from Europe, America or Asia. Consequently, as rightly put by Shen (2015: 157), "All the potential values of data newly created for future research are lost immediately after the original work is done". Thanks to sporadic research activities of individual faculties towards the creation of data in a reusable format⁵, Cameroon has the privilege to host an extension of the DOBES⁶ Archives, the Archive of Languages and Oral Resources of Africa (ALORA). ALORA is the digital archival interface of the Centre International de Recherche et de Documentation sur les Traditions

5 One of the type of research results presented in the form of reusable data is language documentation, a relatively new field of linguistics that aimed at "providing a comprehensive record of the linguistic practices characteristic of a given speech community." (Himmelman 1998:166).

6 DOBES, the acronym for "Dokumentation bedrohter Sprachen", is a programme that the Volkswagen Foundation started in 2000 to document languages that are highly endangered in the world.

et les Langues Africaines (CERDOTOLA). It was set up in February 2014 as a regional archive with the technical support of the Max Planck Institute for Psycholinguistics, within the framework of the INNET project.

ALORA is an example of collaboration between researchers in the field of linguistics, anthropology, cultural studies, sociology, etc. ALORA is an example of collaboration between researchers in the field of Linguistics, Anthropology, Cultural Studies, Sociology, etc. A discussion with the director and curator of ALORA, Dr Emmanuel Ngué Um, confirms that ALORA is an example of a DS&R platform. Indeed, considering that the term “data sharing” widely applies to public repositories that are host to resources deposited and accessed without restriction, ALORA is a language archive which is open without restriction to any depositor, as long as their data is compliant with commonly agreed archiving standards (file format, provision of metadata, file naming, etc.). As a principled specification of ALORA’s policy, once data is deposited, it must be made public and should be freely accessible. However, depending on issues such as privacy rights and other sensitivity variables (religiousness, cultural taboos, etc.), the owner/depositor of a data may apply or require access restrictions to part of his/her corpus for a limited or extended period. He/she may also grant access to all users or to a limited set of users. The “sharing” value that ALORA adds to data-driven research is in the fact that, individual or institutional data that have been used in the publication of piecemeal research may be double-checked by peer researchers or, in the case of academic research, by a panel. In current research practices, attention is paid to and credentials given only to the final product of scientific investigation (article, book, thesis, etc.). By contrast, a data-sharing perspective is one where the process of research, from data to publication, is supported by an integrated environment. This makes it possible for others to access and, if necessary, verify the raw source upon which a given analysis is grounded. As for reusability, it is embedded in the philosophy of data sharing. In simple terms, it could mean that the same data set or collection is used for different research purposes and in different circumstances.

CERDOTOLA is an inter-state organization which is committed to documenting, preserving and promoting the rich, yet endangered African cultural and language heritage through concrete actions such as:

- funding of scientific research and publication,
- organization of scientific and cultural meetings throughout its member States,
- training,
- language & cultural documentation,
- and archiving

With these objectives, the Max Planck Institute for Psycholinguistics, which is also highly involved in the documentation of languages and cultures, found the ideal partner.

Yet, the challenges faced by ALORA are many. The instability of fast internet connection, the ignorance of colleagues about its existence and how to get to use it,

the resistance to changes and innovations shown by some, the timid institutional support, etc. made that the potential of ALORA is still highly underused.

The hope of a near-future improvement in that domain of university research management comes from the fact that the Ministry of Higher Education in Cameroon is doing a lot to improve on the cyber infrastructure in state universities. A number of actions attest to that:

1. Extension of the functions of Deputy Vice-Chancellor in charge of Teaching that became Deputy Vice-Chancellor in charge of Teaching, Professionalization and Development of Information and Communication Technologies (DVC/TIC). The portfolio of the latter is, in addition to teaching, to initiate and implement policies for ITCs in the Cameroon State Universities. Thus, the success of ITCs in a State University lies in the ability of the DVC/TIC to gather the synergy that will “make things happen”. The importance of personal touch in the management task may partially explain the reason why some state universities are more advanced than others in the acquisition ICT facilities and implementation of e-based tasks.
2. The creation of structures where ITCs are used and promoted in collaboration with foreign partners, e. g.:
 - a) Virtual Universities for E-teaching and learning (in Partnership with: The African Union, India, the Ministry of Post and Telecommunication (MIN-POSTEL), the Ministry of External Relations (MINREX), the University of Yaounde 1 (UYI), and Cameroon Telecommunication (CAMTEL)).
 - b) The Institute of Numeric University Governance.
 - c) The Inter-University Center of ITCs as a platform for the collaboration of between higher education learning institutions on matter of ICTs and cyber knowledge and practices.
3. Collaboration with potential ICT-inclined partners like Orange Cameroon⁷, Mobile Telecommunication Network (MTN), CAMTEL, at the national level, and the Pan African Institute of University Governance at the regional level.

In short, the importance of technology in research and education is no longer the sole concern of educationists, but has become a priority on the agenda of the top management of Cameroon educational system as a whole. Since 1998, the efforts started in private schools to integrate ICTs into the curriculum of primary and secondary schools in Cameroon was successfully echoed by the public schools as from 2001 (Fouda, Ndjodo, Ngah & Zobo, 2013 and Ngajie & Ngo Mback, 2016).

Thus, since robust cyber infrastructure is the plinth onto which DS&R rests, we think that the pathway to innovation embracing digital research data sharing is not too far from now. Decision makers of CHE are deeply aware of the importance of ICTs in the daily lives of Cameroonians, and are doing tremendous efforts to make it a reality in State and Universities. Private institutions are also following the move for a better CHE.

7 A Cameroon mobile telecommunications operator.

6 Conclusion

Nowadays, in the name of QA in HE, research activities are conducted in all sectors relevant to the improvement of HE systems. Today more than ever, it is a truism that there is a growing necessity for African scholars and well-trained scientists to contribute to innovative paradigms that will foster development on the African continent, and boost the participation of Africa in the knowledge economy. Thus, the storage of research data on TRA is beneficial to the scientific world and, in turn, to the society. That is why DS&R is seen as a gage, condition or plinth to QA in HE. If good quality research “should adhere to principles of professionalism, transparency, accountability and auditability” (UKCCIS Evidence Group, 2015) then, DS&R is pivotal in this process. Considering the gap that the African HE systems have in terms of quality, QA, and even DS&R, promoting innovation and potential new data uses, and encouraging scientific enquiry and debate through DS&R is a sustainable approach to upgrading and sustaining the quality of TRA.

Although data is created in Africa, DS&R is not yet a cyber-based practice as it is not even seen as a modern scientific practice that allows reanalysis of evidence, reproduction and verification of results, minimization in duplication of effort, and building on the work of others (Thanos, 2017). Neither is it seen as part of good practices in the management of research in higher education. However, the potential is there and sensitization is the driving force needed for the emergence of the culture of data sharing and publication, open access, and reuse of data.

Understanding research data sharing and reuse practices of academic faculty researchers is important to the development of data infrastructure, management, preservation, and curation systems at an academic institution” (Shen, 2015: 158). DS&R is not only a solution to the lack of enthusiasm towards research activities, but also an obvious connection between research management and quality assurance. Data sharing, despite its numerous challenges, offers excellent opportunities to improve on the management of research in higher education in Africa.

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Developing a Course Outline to Enhance Research Skills at Graduate School at Bugema University

ROSETTE KABUYE AND NORMAN MUKASA

Abstract

The classical class research lectures have a limited ability to impart comprehensive skills needed for master's students to successfully write their dissertations at the end of the two year academic engagement. The quality of research and time of compilation of research at graduate level is affected by research skill incompetence. Using the Project Action Plan model, four interrelated steps (skill audit, training workshop, evaluation and designing of a course outline) were used to identify the problem—skill gap—and design an intervention—workshop. The evaluation of the intervention demonstrates that students increased their competence considerably. A course outline was designed as a product of the research project.

1 Introduction

1.1 Background

The School of Graduate Studies at Bugema University (SGSBU) offers advanced education and research aimed at empowering students with the ability to generate knowledge and confront the societal challenges through collaborative learning and networking for the purpose of discovering new knowledge.

The role of the dean of the Graduate School is pivotal in supporting and motivating students' skill development and training in research methods. On assuming office, the dean was faced with the urgency of making effective training in order to improve the graduate students' research skills, and it was found important to prioritize and categorize activities into the Project Action Plan (PAP). This determination coincided with the DAAD call to the International Deans' Course which was designed for newly elected deans and vice-deans from Africa, Southeast Asia and Latin America. The key objective of the course was to assist deans in preparing for the challenges of holding a deanship position in a changing higher education landscape. It dealt with various issues surrounding faculty management and leadership. Issues such as strategic faculty management, financial management controls, quality assurance and leadership were key parts of this progress. Participation in the PAP project was practice oriented and mainly based on case studies. Personal experiences as a

university manager greatly contributed to this course and influenced the commencement of activities for a skill audit and the designing of a course outline model to implement at our university.

Lack of research skills among students at the graduate school was the call for which the PAP was answering. The PAP served to induce change processes of which deans felt that they were needed in the School. Since deans have a variety of tasks and goals in their schools, the decision for a project and an action plan helps to set priorities. After strengths, weaknesses, opportunities and threats (SWOT) analysis, Bugema Graduate School identified the lack of research skills and we agreed that this problem affected the quality and completion of research projects. The general objective of the PAP was to develop a training package that enhances research skills development at Bugema Graduate School. The next section gives readers the background of Bugema University Graduate School.

1.2 Bugema University Graduate School

Bugema University started in 1948 as a training school for teachers and pastors for the Seventh-day Adventist Church in East Africa. By then it was called Bugema Missionary Training School but later, the name changed to Bugema Missionary College and then to Bugema Adventist College. In 1978, Bugema Adventist College graduated its first degree class with a Bachelor of Theology. In 1994, Bugema Adventist College changed its status from college to university, and in 1997, Bugema University was granted a license from the Ministry of Education and Sports to operate as a university offering Bachelor of Theology, Bachelor of Business Administration in Management and Accounting, and Bachelor of Arts in Education with History, Religion, English and Literature as teaching subjects.

Currently, Bugema University runs Master's program at Kampala, and Arua campuses, offering Master of Business Administration, Master of Arts in Development Studies, Master of Arts in Education, Master of Public Health and Master of Science in Counselling Psychology. Bugema University envisions training for Excellence in Service through Research and Community Extension.

1.3 The Problem

Graduate School master students are required to attend research seminar classes aimed at grasping more research skills which would contribute to their final thesis. This is more of an independent study with very little lecturer interceptions and no timetable hours. It involves one or more extended research projects which a student brings to fruition with the guidance of a specialized supervisor.

However, the limited student competences create research skill deficits which affect the development and completion of research projects. The same problem is often realized during student proposal and thesis defence. Corrections to students work seemed massive so that most students did not make it to graduation. The students seem to lack the techniques and skills of research which leads to poor quality of students' thesis, students abandoning the research thereby clogging the students'

academic progress, yet research is only partial fulfilment of a master's degree. This project therefore applies a PAP to develop an evidence-base course outline for training students in comprehensive research skills and techniques.

2 Brief Literature Review

Research skills and knowledge development by graduate students have been on a rising demand in the recent decade. As research extends the boundaries of understanding, it is necessary to equip researchers with the skills and tools to identify problems and look for practical solutions in a systematic way. Research is a "hunt for the truth" (Katamba & Nsubuga 2014), it is a systematic investigation, testing and evaluating, designed to develop and contribute to generalizable knowledge (UNCST, 2016). The process of teaching graduate students involved in investigation offers practice in the application of important research skills (Feldon, D. F. et al 2011). It consists of activities that take more time and entails different research skills than the final step of writing the paper (Abba, K. A. 2015). The development of basic skills has been motivated by the belief that there are skills which all graduate students should possess and which would be applicable to a wide range of tasks and contexts beyond the university setting (Balatti 2004). Several studies use pre- and post-test methods to assess the success of skill training in student's completion (Powers 1987). A common theme from studies of graduate students self-report survey designed to capture graduate students assessment of their research skills, indicate that several factors contribute to graduate students perceptions of their research and teaching skills such as their personal values and research and teaching practices (Gilmore and Feldon 2010).

There is an underlying assumption that students that undertake graduate studies are competent in skills of conducting research, however this assumption has been challenged (Williams, 2000). As Bradigan et al. (1987) observed, students come to graduate study with much different levels of preparation and may be unaware of the deficits in their research skills and techniques. Research supervisors encounter these deficiencies in research skills first hand during supervisions.

3 Methodology

In order to achieve the PAP objectives there was a need to come up with a roadmap which was composed of tasks to achieve along the journey. The first task was to raise awareness of the project. It all started with presenting a written report to the Vice Chancellor who serves as the chief executive of the university. It followed a lengthy discussion and several informal interactions with the DVC Academics. From here I was requested to introduce the PAP to the University faculty and staff. Another presentation to the deans and the heads of departments in the University was done. This resulted in the call from the DVC Academics office requesting all school deans

to develop PAP as their management tools used to address challenges in their departments, at this point my PAP was used as Case Study. It benefited from contributions from the other deans. Further to this, graduate council awareness was raised and in respect to the above task, awareness created and a dedicated team led by the Dean appointed by Graduate School Council to push the Project came in to existence.

3.1 Activities undertaken in the PAP/Achievements

Table 1: Activities as part of the PAP

Activity	Activity description	Person in charge
DAAD Dean's Course in Germany	Attending workshop and a report written and presented to the Vice Chancellor upon return from Germany	Vice Chancellor
Stakeholder meetings	Discussion with DVC Academics about the PAP. Presented PAP to the graduate school council seating Introduced the PAP to the faculty and staff of graduate school	DVC, Graduate School Council
Implementation of PAP	Established a committee to oversee the development and implementation of PAP and it was tasked with the following tasks: Skill Audit/Needs Assessment of Students and Lecturers Develop a training package for the needed skills Implementation of workshops and evaluation of the content	PAP committee
	Interviews were carried with the lecturers at graduate school inquiring of the skills a master student should possess	
	Documentary review (course outline content for research seminar), Benchmark and review literature	
	The PAP committee reviewed the skill audit questionnaire Skill Audit/Needs Assessment of Students and Lecturers to be identified through documentary review, interviewing and filling questionnaire	
	Skill audit introduced to Students on the 13/Dec 2017 a workshop was held to introduce the students to the skill audit Printed and Distributed questionnaire to the current research student	
	Contact the experts to provide content for training	
Training package and deliver a training workshops	Finalize the skill package and present to the senate for approval Disseminate the skill package	Dean Graduate School
	Plan for the workshops and request the professors to deliver the training in theory and practice	

(Continuing table 1)

Activity	Activity description	Person in charge
Evaluation	Evaluation tool available in appendix	Dean Graduate School and PAP committee
Outcome	Details of the course outline; Course outline is adopted and available for use in graduate school seminars and later use them in our research seminar class	DVC, Graduate School Council

3.2 Skill Audit and Identified themes

All masters' students planning to attend research seminar were required to complete a skills audit as part of their research seminar class. This application was a great opportunity for self-assessment of skills and being aware of training opportunities to enhance skill areas where they consider there is scope for development. Themes were identified after conducting interviews and group discussions on what skills a master student should possess as they conduct their research. The skills audit was followed by a rigorous process of identifying themes emerging from the students' report on skill gaps. After a thorough sorting, coding, categorization, the following themes emerged:

- Statistical skills
- Data analysis (quantitative and qualitative techniques)
- Report writing skills (preparing essays and reports, Microsoft Word, how to embed diagrams and graphs, choosing the right language)
- Citing literature
- Referencing techniques (referencing your sources)
- Critical review of documents/critical analysis
- Analysis of research problems
- Selection of an appropriate study design
- How to make conclusions and recommendations of studies
- Use of English language in research
- Research presentation (e. g. power point, how to communicate your research)
- Communication skills
- Data collection skills
- Result interpretation skills
- Electronic data searching engines
- Basic computer skills
- Developing a conceptual frame of your research/conceptualization skills
- Learning from feedback (acting upon your markers feedback)
- Paraphrasing (learning how to paraphrase an original text effectively by using synonyms, changing verbs to nouns or the sentence structure
- Introduction to reference software
- Constructing an argument (how to identify and construct an argument, introducing a critical and analytical thinking and going beyond description)

3.3 Evaluation (Research Seminar Evaluation Form)

The evaluation form was designed as a feedback tool. It was distributed to workshop attendees at the end of a training session. The form consisted of eleven questions (see appendix 1).

3.4 Development of the Course Outline

The course outline (see appendix 3) was developed by experts who had participated in the training sections. A draft of the outline was reviewed by the authors and submitted for review and approval by the university organs. The course outline was designed to offer research skills training in the period of: three (3) hours per week (which is 15 weeks in a Semester = 45 Hours). The mode of delivery is lectures, class presentations and discussions while the mode of assessment include: Workshop presentations, assignments, oral Presentations, mini thesis and, and research proposal.

4 Findings

4.1 Conceptualization of PAP Process

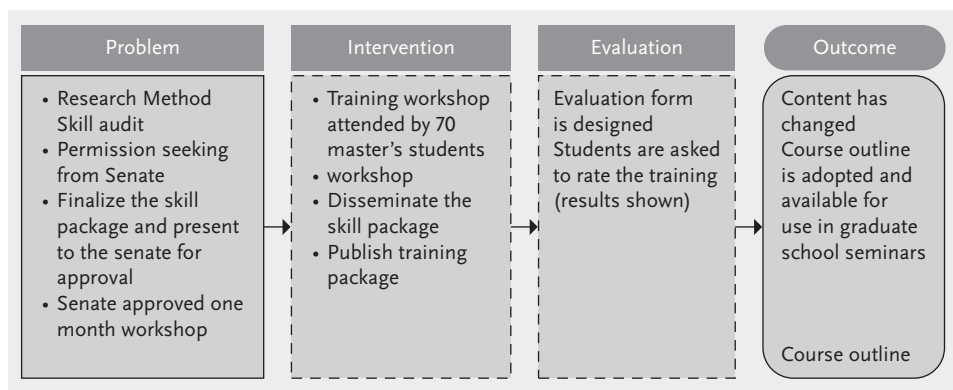


Figure 1: The PAP process

4.2 Research skills landscape

Baseline skill audit –Step 1: The project started with a baseline skill audit on various research skills possessed by students at the Graduate School of Bugema University. The first task was to design a skill audit survey to assess the extent to which students rated their research skill competence and abilities based on 19 broad research skills themes (i. e., ranging from interpersonal skills to referencing). Data were collected on the skills using self-report survey questionnaire (see appendix 2, which was completed by students.

- Engaging specialized trainer– Step 2: The first step of the project was conducted in the Graduate School with a goal of identifying specialized trainers for the workshop. A training program was developed to train students during the summer break. It concentrated on finding specialized trainers. The trainers were re-

quested to prepare more of practical training than theoretical materials to facilitate practical skill development.

- The training Workshop–Step 3: this step focused on the provision of a series of trainings on skills gaps identified in the self-assessment skill audit. The training workshops were designed to address the practical needs of the students in an interactive environment.
- Evaluation of the workshop– Step 4: With the focus on practice, the researchers were interested in feedback on the progress and effectiveness of the intervention (workshop). An assessment tool was designed (see appendix 1) to obtain feedback from participating students. The major focus of this step of the project was to ensure that the workshop addressed the skill gaps identified and that the students reported on their obtained level of competence.
- Designing a course outline – Step 5: this was an outcome step. The purpose was to document the skills in form of a research seminar program and course outline to integrate the identified skills into the curriculum. A team of specialized trainers were allocated units for teaching. The designed course outlines (see appendix 3) were integrated into research training to improve research at the graduate school.

The baseline skill audit was undertaken to audit the research skill levels of continuing master's students. 19 skills of doing research were assessed; each of these skills was given key components that students ranked. The results of the research skill audit are presented here below:

Table 2: Analysis of research skills

SKILLS	BASELINE RESULTS	
1.Interpersonal skills		
Component elements:	Mean Score(s)	Remark(s):
1.1.Listening skills	77.9 ± 16.7%	Overall Mean Score = 70.5 ± 14.1% Distribution: Majority 92.9 % scored average and above (≥ 50%)
1.2.Verbal communication	65.9 ± 18.3%	
1.3.Emotional intelligence	63.6 ± 20.1%	
1.4.Working in groups or team	75.6 ± 20.3%	
2. Use of English language in research		
Component elements:	Mean Score(s)	Remark(s):
2.1.Speaking and listening	71.3 ± 15.6%	Overall mean Score = 65.1 ± 14.6 % Distribution: A biggest percentage (78.6) of the participants scored average and above
2.2.Writing skills	57.5 ± 18.1%	
2.3.English Grammar	62.2 ± 19.5%	
2.4.Reading-manage texts and recommended reading	66.3 ± 18.4%	

(Continuing table 2)

SKILLS	BASELINE RESULTS	
3. Basic computer skills		
Component elements:	Mean Score(s)	Remark(s):
3.1.Microsoft office	67.3 ± 21.7%	Overall mean score: 54.1 ± 17.9% Distribution: Most participants (66.7 %) scored average and above
3.2.Power point	51.8 ± 26.1%	
3.3.Spreadsheets	41.1 ± 22.6%	
3.4.Email	70.7 ± 22.3%	
3.5.Use of Graphs	39.9 ± 25.9%	
4. Report writing skills		
Component elements:	Mean Score(s)	Remark(s):
4.1.Preparing essays and reports	51.8 ± 16.2%	Overall mean score: 47.1 ± 15.5% Distribution: Most participants (52.4 %) scored average and above.
4.2.Proporsal and dissertation writing	43.5 ± 19.9%	
4.3.Basic report structure, numbering and designing	44.0 ± 21.2%	
5. Research work planning		
Component elements:	Mean Score(s)	Remark(s):
5.1.Designing a research plan	42.5 ± 22.1%	Overall mean score: 52.4 ± 19.7% Distribution: Majority participants (57.1 %) scored average and above
5.2.Time management	65.0 ± 23.2%	
5.3.Budgeting for research	48.8 ± 24.0%	
6. Managing feedback		
Component elements:	Mean Score(s)	Remark(s):
6.1.Learning from feedback	61.1 ± 25%	Overall mean score: 57.5 ± 21.5 Distribution: Many participants (66.7 %) managed to score average and above
6.2.Reacting to your markers' feedback	54.6 ± 20.0%	
7. Analysis of research problem		
Component elements:	Mean Score(s)	Remark(s):
7.1.Identifying the background informa- tion (context of the study)	53.8 ± 18.6%	Overall mean score: 52.8 ± 15.8 % Distribution: Majority participants (71.4 %) scored average and above
7.2.Identifying the research gap	50.6 ± 18.3%	
7.3.Justification of the research problem	53.8 ± 16.6%	

(Continuing table 2)

SKILLS	BASELINE RESULTS	
8. Developing a conceptual framework of your study		
Component elements:	Mean Score(s)	Remark(s):
8.1.Definition of concepts	51.3 ± 17.4%	Overall mean score: 46.3 ± 16.4 % Distribution: Most participants (61.9 %) scored below the average
8.2.Mind mapping	41.9 ± 19.9%	
8.3.Conceptualisation	45.6 ± 21.1%	
8.3.Identifying variables and the relationship between variables	45.6 ± 21.1%	
9. Literature review		
Component elements:	Mean Score(s)	Remark(s):
9.1.Identify related literature	56.3 ± 23.2%	Overall mean score: 48.6 ± 18.7% Distribution: Many more participants (54.8 %) scored below the average
9.2.Grouping relevant literature	50.6 ± 24.7%	
9.3.Analysing literature basing on 5Ws	43.1 ± 23.3%	
9.4.Electronic data searching engines	43.8 ± 21%	
10. Paraphrasing and handling quotations		
Component elements:	Mean Score(s)	Remark(s):
10.1. Can paraphrase an original text effectively by using synonyms, changing verbs to nouns or the sentence structure	52.6 ± 20.5%	Overall mean score: 44.7 ± 16.7 % Distribution: A bigger number of participants scored below the average
10.2.In-text quotes	47.5 ± 21.8%	
10.3.Indirect quotes	45.6 ± 20.3%	
10.4.Direct quotes	45.6 ± 20.3 %	
10.5.Standalone quotation	37.8 ± 18.0%	
11. Selection of appropriate study design		
Component elements:	Mean Score(s)	Remark(s):
11.1.Method and tools of conducting research	51.9 ± 19.1%	Overall mean score:51.5 ± 16.8% Distribution: An average score and above was got by the majority participants
11.2.Method and tools of conducting research	49.4 ± 18.6%	
11.3.Procedure of research	54.4 ± 15.9%	

(Continuing table 2)

SKILLS	BASELINE RESULTS	
12. Data collection skills		
Component elements:	Mean Score(s)	Remark(s):
12.1.Gathering data	51.9 ± 24.3%	Overall mean score:52.1 ± 19.6% Distribution: The majority participants scored average and above
12.2.Designing a data collection tool(i. e.: questionnaire and interview guide)	46.1 ± 21.4%	
12.3.Interview skill	57.1 ± 19%	
13. Data analysis skills		
Component elements:	Mean Score(s)	Remark(s):
13.1.Transcribing, editing, sorting and code, categorization, theme development	36.6 ± 24.4%	Overall mean score:51.6 ± 21.9% Distribution: More than a half of the participants (52.4 %) scored average and above Processes of analysing and interpreting qualitative data are less known
13.2.Result interpretation	41.9 ± 20.7%	
14. Critical thinking and analysis		
Component elements:	Mean Score(s)	Remark(s):
14.1.Evaluating and weighing different studies of an argument	42.1 ± 19.7%	Overall mean score:45.1 ± 16.7% Distribution: A bigger number of participants scored below the average (59.5 %)
14.2.Applying reason and logic	46.3 ± 22.7%	
14.3.Drawing and evaluating conclusions	48.2 ± 20.2%	
14.4. Ability to ask why? (critiquing)	54.5 ± 22.1%	
15. Statistical skills		
Component elements:	Mean Score(s)	Remark(s):
15.1.Knowledge of statistical program	28.0 ± 23.8%	Overall mean score:32.4 ± 22.5% Distribution: Most participants scored below the average
15.2.Descriptive and inferential statistics	36.9 ± 24.7%	
16. Research presentation		
Component elements:	Mean Score(s)	Remark(s):
16.1.Use power point presentation	50.6 ± 25.6%	Overall mean score: 51.5 ± 19.9% Distribution: Majority of participants scored average and above.
16.2.Communicating your research	52.4 ± 20.5%	
17. Conclusion		
Component elements:	Mean Score(s)	Remark(s):
17.1.Restate the thesis and sum-up the main finding to the read	48.1 ± 22.2%	Overall mean score:46.8 ± 23.8% Distribution: Majority participants (61.9 %) scored average and above.
17.2.Synthesis of the key points	45.5 ± 26.2%	

(Continuing table 2)

SKILLS	BASELINE RESULTS	
18. Recommendations of studies		
Component elements:	Mean Score(s)	Remark(s):
18.1. Can you make critical suggestion regarding the best course of action based on your research findings?	51.2 ± 22.7%	Overall mean score: 51.2 ± 22.7% Distribution: The biggest percentage of participants scored average and above (73.8 %)
19. Referencing techniques		
Component elements:	Mean Score(s)	Remark(s):
19.1.Citing literature	54.9 ± 21.1%	Overall mean score: 51.3 ± 17.8% Distribution: The majority participants (52.4 %) scored below the average
19.2.Referencing your sources	51.8 ± 21.2%	
19.3.Knowledge of plagiarism	54.4 ± 22.56%	
19.4.Use referencing software	51.8 ± 21.2%	
19.5. Referencing, e. g., APA. Harvard, MLA etc.	53.8 ± 23.3%	

N = 70

From a sample of 70 graduate students interviewed, the results in the table above suggest that students had diverse research skills needs. Participants had high scores in interpersonal skills, English language, basic computer skills while a majority scored slightly above average in skills related to literature review, feedback, analysing of a research problem, referencing and presentation of findings. Much emphasis was needed to improve the low scores in core research skills such as data collection and data analysis, statistics, interpretation of findings, critical thinking and data analysis.

4.3 Scoring the intervention based on content, time management and venue

Over 80 percent of the attendees reported that their expectations were met.

Table 3: Seminar feedback

Item 4, 5 and 6	Strongly agree	agree	Not sure	Dis-agree	Strongly Disagree
The seminar content was relevant to the need.	▲▲▲▲▲	▲			
time was well managed.	▲	▲▲▲	▲	▲	
The venue was accessible to me	▲	▲▲	▲▲	▲	

▲ = 10 points scored in that respective category, the point score equals the number of respondents

The scores show that the content of the seminar was very relevant to the needs of the attendees (50 points). This result can be attributed to the rigorous skill audit that proceeded and informed the intervention. Time management and accessibility of the venue score relatively high, a few respondents registered disagreement with the time management and venue accessibility.

4.4 Course outline

The researcher used participatory methods to design a course outline that incorporates the critical skills identified in the skill audit and workshops. Unlike the previous research seminars, the designed course outline strikes a balance between theory and practice. In a period of 14 week, the facilitators cover the basic skill of research methods and provide hands-on training and group learning methodologies. The expected outcomes are three holistic items, namely:

1. To demonstrate the role of research, purpose of research, the functions, scope and the managerial value of research.
2. To develop an appropriate full research or thesis proposal in strict accordance with the Research Format of Bugema University, School of Graduate Studies.
3. To develop and carry out a mini thesis (as will be guided by the instructors). The purpose is to demonstrate how to analyse data, write and disseminate scientifically generated findings.

5 Constraints Affecting Research Skill Development Project

Research

This section will address some of the more significant constraints to research skill development at individual, departmental and institutional level; emphasis is put on the environmental and stakeholders' expectations.

Environmental factors: alignment with the institutional agenda: In the course of the project it became clear that one of the main constraints at institutional level was the environment in which research training was undertaken. The implementation of the project depends hugely on the ability of the project team to generate support at all levels of the university. Equally gaining widespread acceptance by academic staff of the importance of including practical skills in the curriculum were: (a) resistance to change; (b) a perception of additional responsibility; and (c) poor attendance or rejection. This explains why the current project started with reporting to the Vice Chancellor and the Deputy Vice Chancellor, and then the lecturers were contacted.

It is important that different departments buy into the projects. The ability of the project team to change perceptions of those who are expected to make decisions and those involved in training is critical. In the case of this project, the authors-, organized individual meetings, committee dialogues and met the top management. By meeting these stakeholders, what seemed initially as a constraint turned into a posi-

tive outcome from the project, as academic staff got involved in designing training materials and defining skills. The team therefore embarked on refining and modifying the identified skills.

The third constraint is institutional culture and stakeholders' expectations. Our main stakeholders were the institution, staff, students, but another important group of stakeholders comprised the members of the financial departments of the institution. The designing and implementation of this project required funding to compensate and motivate the project teams and experts involved in training.

6 Conclusion

Graduate studies focus on research skills development and practice, therefore master's and doctoral students are supposed to be competent in research skills in order to indulge consistently in research activities. This studies employed the Project Action Plan (PAP) model to identify the research skills gap and design a research skills training and course outline. At all levels, the processes involved a number of university stakeholders, experts in research methodology and a large cohort of continuing master students to: identify their research needs, organize the training, undertake a self-assessment and evaluation of the training, and lastly experts were involved in designing of a new course outline. The strengthen of the findings lies in the extensive pre-training skill audit and post-training evaluation by participants, as well as the involvement of experts in the training sessions. The limitation of the results is that the study was undertaken in a single university setting among master's students. Further studies may include students from various universities and or students at doctoral research level.

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Appendix 1: Research Seminar Evaluation Form

BUGEMA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

Summer 2017/2018

Your feedback is critical to ensure we are meeting your research needs. We would appreciate if you could take a few minutes to share your opinions with us so we can serve you better.

1. Gender ☐ Male ☐ Female

2. What is your main field of specialization:

3. Were your expectations for this seminar met?

Yes ☐ No ☐

4. The seminar content was relevant to the need.

5. Strongly agree 4. Agree 3. Not sure 2. Disagree 1. Strongly Disagree

5. Time was well managed.

5. Strongly agree 4. Agree 3. Not sure 2. Disagree 1. Strongly Disagree

6. The venue was accessible to me.

5. Strongly agree 4. Agree 3. Not sure 2. Disagree 1. Strongly Disagree

7. List the three major benefits that you have acquired from this seminar.

8. What have you liked about this seminar?

9. What haven't you liked about this seminar?

10. In what areas would you like to have seminar in?

11. What recommendations do you have?

Appendix 2: Skills Audit Summary

Skill Audit assessment Form

All Masters Students planning to attend research seminar are required to complete a Skills Audit as part of their research seminar class. This application is a great opportunity to self-assess your own skills and be aware of training opportunities to enhance skill areas where they consider there is scope for development

In each of the following skills listed below, how would rate your level of competence in research based on the Likert scale of 1–5, where 1 = no skill, 2 = low skill, 3 = average 4 = strong 5 = very strong

Skill	Elements	Level of competence				
		1	2	3	4	5
Inter personal skills	• Listening Skills • Verbal Communication • Emotional Intelligence • Working in Groups and Teams					
Use of English language in research	• Speaking and listening • Writing skills – learn to plan and structure essays • Grammar – learn correct use of English grammar • Reading – manage texts and recommended reading materials					
Basic computer skills	• Microsoft Office • PowerPoint • Spreadsheets • Email • Use of Graphs					
Report writing skills	• Preparing essays and reports • Proposal and dissertation writing • Basic report structure , numbering and designing					
Research work planning	• Designing a research action plan • Time management • Budgeting for research					
Managing feed-back	• Learning from feedback • Reacting to your markers feedback					
Analysis of re-search Problem	• Identifying the background information (context of the study) • Identifying the research gap • Justification of the research problem					
Developing a conceptual framework of your study	• Definition of concepts • Mind mapping • Conceptualization • Identifying variables and the relationship between variables					
Literature review	• Identify related literature • Grouping relevant literature • Analysing literature basing on the 5 Ws • Electronic data searching engines					

(Fortsetzung Tabelle)

Skill	Elements	Level of competence				
		1	2	3	4	5
Paraphrasing and handling quotations	• Can paraphrase an original text effectively by using synonyms, changing verbs to nouns or the sentence structure • In-text quotes • Indirect quotes • Direct quotes • Standalone quotation					
Selection of appropriate study design	• Method and tools of conducting research • Method and tools of conducting research • Procedure of research					
Data collection skills	• gathering data • designing a data collection tool (i. e.: questionnaire and interview guide) • interview skill					
Data Analysis skill	• Transcribing, editing, sorting and code, categorization, theme development • Result interpretation					
Critical thinking and analysis	• Evaluating and weighing different sides of an argument • Applying reason and logic • drawing and evaluating conclusions • ability to ask why (critiquing)					
Statistical skills	• Knowledge of statistical programs, like SPSS, STATA • Descriptive and inferential statistics					
Research presentation	• Use power point presentation • communicating your research					
Conclusions	• Restate the thesis and sum-up the main finding to the reader • Synthesis of the key points					
Recommendations of studies	• Can you make critical suggestion regarding the best course of action based on your research findings					
Referencing techniques	• Citing literature • referencing your sources • Knowledge of plagiarism • Use of referencing software • Referencing style , e. g., APA, Harvard, MLA etc.					

Appendix 3

BUGEMA UNIVERSITY – KAMPALA CAMPUS – SCHOOL OF GRADUATE STUDIES

Course Outline for:

EDMN 632/CNSL 601/DVMC 612/MBARST 702/BMPH 631

Research Seminar

WEEK-END PROGRAMME

1ST Semester, 2018/2019 Academic Year

August – November, 2018

Lecturers Names & Academic Qualifications:	As per the details on Time Table
Contact Hours:	Three (3) hours per week; 15 weeks in a Semester = 45 Hours
Tutorial Hours	To be arranged where possible
Timing and Location:	As per the Time Table.
Mode of Delivery:	Lectures, Class Presentations and Discussions.
Mode of Assessment:	Workshop presentations, assignments, oral Presentations, mini thesis and, and research proposal
Consultation Time:	Immediately after lectures

Course Description

The role of research in education, business arena and society in general, procedures in the selection and evaluation of research projects, and techniques of data analysis will be examined. Advanced topics of data collection and analysis will be considered. It will also emphasize how to write and present scientific information in a clear and interesting way. It requires individual writing projects, oral presentations, concise books on good writing to develop skill for community scientific ideas, design, results and theories.

General Objectives

The purpose of this course is to provide an overview of research procedures, forms of evaluation, and various types of techniques used for research data collection. The foundation and framework for the conceptualization of a thesis or thesis project will be the main focus of assignments, discussions, and overall coursework.

Specific Objectives and Expected Course Outcomes

Specific Objectives	Expected Course outcomes
1. To develop a problem statement that is researchable based on current professional practice and literature; 2. To formulate testable hypotheses and/or research questions that target the problem statement; 3. To review and analyse professional literature that is relevant to the problem statement using APA style; 4. To write research methodology; 5. To develop a research design that is appropriate for a thesis/thesis project; 6. To be able to use various data analysis techniques used in research; 7. To generate a list of references showing the sources and methods used in the literature search; 8. To appreciate different thesis writing styles	1. Demonstrate the role of research, purpose of research, the functions, scope and the managerial value of research. 2. To develop an appropriate full research or thesis proposal in strict accordance with the Research format of Bugema University, School of Graduate Studies. 3. To develop and carry out a mini thesis (as will be guided by the instructors). The purpose is to demonstrate how to analyse data, write and disseminate scientifically generated findings.

COURSE CONTENT DETAILS

Course Timing		Topics to be covered and students' activities
Month	Week	
19 th Aug.	Wk 1	Overview of the course. (Course orientation, unfreezing session, course content presentation and students' suggestions & views, emphasis will be based on Academic bulletin, Research/Thesis writing procedures and rules, course requirement and exam grading)
26 th Aug.	Wk 2	Presentation on how to conceptualise a research problem, formulating of a good Thesis title (features of a good title) Practical exercise by the students on the conceptualisation of their intended research problems. Expected outcome: student are able to identify a research problem.
2 nd Sept.	Wk 3	Presentation on what is a theory, conceptual framework, how to construct a conceptual framework (the independent, dependent and other variables), operational definition of terms. Presentation on how to undertake a qualitative study. Practical exercise by the students- identifying, the appropriate theory, and constructing the conceptual framework.
9 th Sept.	Wk 4	Presentations how to write chap 1 including research questions, Specific objectives and hypotheses. A take home exercise by the students on how to write chapter.
16 th Sept.	WK 5	With consultation of the advisors, the students perfect the writing of chapter 1 of their research proposals. Expected outcome: the students have a complete chapter 1 (introduction).

(Fortsetzung Tabelle)

Course Timing		Topics to be covered and students' activities
Month	Week	
23 rd Sept.	Wk 6	Students submit chapter one for grading
30 th Sept.	Wk 7	Presentation on how to undertake literature review (source, identify sources, processing – including use of the online sources, use of APA guidelines in the literature review.
7 th Oct	Wk 8	Students are expected to present a full draft of Chapter 2 (Literature review) for grading. Referencing Sources /avoiding Plagiarism
14 th Oct.	Wk 9	Presentation on research design, How to undertake sampling procedure in both quantitative and qualitative studies, Quality control, ethical issues in research.
21 st Oct	Wk 10	Introduction to critical thinking
28 th Oct.	Wk 11	Presentation on introduction data analysis in both qualitative and quantitative studies.
4 th Nov.	Wk 12	Students submit draft of methodology chapter for grading.
11 th Nov.	Wk 13	Presentation on guide to construct research instruments in (qualitative and quantitative) are constructed. Practical session on how to construct instruments.
18 th Nov.	Wk14	Computer lab session for practical in quantitative data analysis and Improving presentations with Power point 2010 Preparing research report with word2010 (page numbering margins, saving files). Academic writing (paragraph writing)

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Developing Guidelines to Ensure Higher Transition of Postgraduate Students in the Faculty of Humanities and Social Sciences, Chuka University, Kenya

COLOMBA KABURI MURIUNGI

Abstract

This paper is an analysis of the steps that were taken in preparing guidelines for postgraduate students in the Faculty of Humanities and Social Sciences (FHSS) at Chuka University in Kenya. While the Board of Postgraduate Studies (BPGS) at Chuka University is tasked with monitoring postgraduate students' progression at Chuka University, it was thought prudent to prepare guidelines for students in the FHSS to ensure a comprehensive in-house guidance and monitoring in order to improve graduation rates in the faculty. This idea was born from the International Deans' Course (IDC) Africa 2017/2018, which took place in Osnabrück and Berlin in Germany, Kampala in Uganda and Addis Ababa in Ethiopia, where we had a lot of teaching and guidance on Leadership, Strategic Faculty Management, Financial Management, Quality Management and the Role of Deans, among other topics. Further, the trainers guided us in preparing a Project Action Plan (PAP) and I chose to work on a topic that would help improve postgraduate studies in the FHSS, where I was the dean. The rationale for preparing guidelines for postgraduate studies emanated from the fact that in my Faculty a good number of students are registered but only few graduate within the stipulated period. This paper therefore discusses the processes taken in preparing the guidelines. The paper demonstrates how staff members and students were involved, makes a brief outline of the content of the final copy of the postgraduate guidelines and the extent to which they were found useful by staff and students at the time of writing this paper.

1 Introduction

1.1 Background Information

Chuka University is located on the slopes of Mt. Kenya in the Eastern region of Kenya, in Tharaka Nithi County. The university started as Eastern campus of Egerton University in 2004. In the year 2007, the institution graduated to Chuka University College, and on 8th January 2013, the college was chartered, thus making it a fully pledged University, Chuka University (CU).

Like many other universities in the world, Chuka University endeavours to provide quality education, training, research, extension, environmental sustainability and entrepreneurship, leading to social cohesion, human integrity, and economic development. The Chuka University vision is to be a premier university for the provision of quality education, training and research for sustainable national and global development (CU Statutes, 2014: 4). Additionally, Chuka University's mission is to provide access, generate, preserve and share knowledge for quality, effective and ethical leadership in higher education, training, research and outreach through nurturing an intellectual culture that integrates theory with practice, innovation and entrepreneurship (*ibid*). This mission and vision are in line with the topics that were taught in the IDC 2017/2018 workshops, and therefore the training was very crucial for me as a dean because I got insights on how to boost performance, not just in the FHSS, but also in the university at large.

Chuka University has five established faculties, namely: the Faculty of Agriculture and Environmental Studies (FAES), the Faculty of Business Studies (FBST), the Faculty of Education and Resources Development (FERD), the Faculty of Science, Engineering and Technology (FSET), and the Faculty of Humanities and Social Sciences (FHSS), where I am currently the dean. CU's academic governance lies with the Vice-Chancellor (VC), and below the VC is the Deputy Vice-Chancellor, Academic, Research and Student Affairs (DVC- ARSA) [assisted by the registrar]. Under the DVC (ARSA) are five Deans of the five Faculties, who supervise the Chair of Departments (CODs), while the CODs supervise lecturers as shown in the simplified figure below.

Postgraduate studies, often done at Masters and Doctorate level in most universities in the world serve the purpose of ensuring that continuous research is carried out in institutions of higher learning. This continuous research, innovations and subsequent dissemination of results is key in all faculties at the university, because it is through such research and innovations that the faculty and the university become visible or known to other universities and researchers in the world. In Kenya specifically, the completion of a research thesis and publication of the same on the university website in soft copy, or its storage as a hard copy in the library, ensures that researchers in other universities in Kenya and all over the world have access to this information. For such information to be disseminated, there has to be a successful transition of postgraduate students from course work to research work and to the eventual graduation. Often, during research proposal defences in many universities in Kenya, supervisors and examiners encourage students to visit other university libraries to access other researches carried out in specific areas of interest. One of the issues that I realized needed to be addressed urgently when I became the dean of the Faculty of Humanities and Social Sciences at Chuka University in August 2015, was improving the rate of graduation for postgraduate students in the faculty because many students stalled after completing coursework. Therefore, when I qualified for the IDC course 2017/2018 and the Project Action Plan (PAP) idea was introduced to the participants, I thought it was a great idea to pursue the thread of postgraduate

students' progression as my PAP. I therefore settled on guidelines with an aim of improving the transition of postgraduate students in the FHSS from their first year of study where they undertake coursework, to their second year (for Masters) and third year (for PhD) when they write their projects/ theses. This paper outlines the processes taken in making those Guidelines, the outcome of the process and the impact the prepared Guidelines had on both students and faculty members.

2 Statement of the Problem

The FHSS at Chuka University is made up of two departments: the Department of Social Sciences (DSS) and the Department of Humanities (DHUM). Within these departments there are twelve sub-sections namely: Communication and Media, Linguistics, Literature, Kiswahili, Geography, History, Religious Studies, Philosophy, Criminology and Security Studies, Community Development, Economics, Sociology, Information Science and Psychology. Majority of these disciplines have students registered at undergraduate and postgraduate levels. It is important to note that while many undergraduate programmes at Chuka University are done by students on full-time basis, few postgraduate courses are fulltime as most students prefer the part-time mode. Each year, the FHSS registers postgraduate students in almost all the disciplines, but few complete their studies to graduation. For instance, the students at Masters Level are expected to identify their research topics after the first year of course work and then spend the first part of second year fine-tuning their research proposals and subsequently write the project/thesis in the last part of their second year. However, few students make it to graduation within the stipulated time (two years). My PAP was geared towards identifying the causes of such delays from both the lecturers and students and developing guidelines specifically for FHSS in an attempt to reduce some of the impediments of the research process.

Objectives

The objectives of the project were to prepare postgraduate guidelines that would help increase the number of graduate students qualifying with their degrees in the FHSS each year, track supervision of postgraduate students in the FHSS and to help enhance supervisors' capacity to guide postgraduate students in the FHSS. These objectives were proposed against the understanding that there are some specific potential risks that I had no control of, like, lack of cooperation from lecturers and students, inadequate supervisors in some disciplines and unresolvable possible reasons for failure to complete studies, for example, school fees and other personal issues.

3 Justification of the Project

Every dean in any faculty in the university rejoices in helping students to become better academically and graduate with their degrees promptly. In the FHSS at Chuka University there was a noted delay in completing studies by postgraduate students as shown by the example in the Table 1, which samples students at Masters Level.

Table 1: Rate of Graduation of Masters Students in the FHSS

Registered Masters Students vs. Those who Graduated				
Year	Total Registered Students	Expected Year of Graduation	Total number of Students who Actually Graduated	Balance
2013	71	2015	8	63
2014	104	2016	6	98
2015	48	2017	11	37
2016	58	2018	16	42

The samples above were got from the online system of the FHSS and from the Board of Postgraduate Studies at Chuka University. In picking this data, attention was paid to year of students' registration and counterchecked to ascertain the number of students that graduated immediately after the expected year of graduation. Data was sought starting from the year 2013 when Chuka University was chartered. The data for those to graduate in 2018 is not indicated in the table above because the 2018 graduation was still pending by the time this paper was written. From Table 1, we notice that a very small percentage of students (11.3 % in 2015; 5.8 % in 2016; 22.9 % in 2017) graduated as required. It should also be noted that the percentages of those graduating are not necessarily for those students that finish within the stipulated time because some are from previous years, with many taking even more than six years to finish their Masters studies. Such a trend was alarming and it called for an intervention to help sustain students who finish their studies timely. It was hoped that guidelines produced by this project would help improve not just the current situation in the FHSS, but also sustain better trends in future.

4 Processes and Steps Taken

The first step that this project took was to ask for permission from the Vice-Chancellor to proceed with the PAP idea, which was granted. The second step was to try and find out the causes of delay in completion by postgraduate students from both the students' perspective and academic staff members' perspective. To accomplish this, the dean formed a committee of five members picked among the academic staff members to assist in the PAP tasks. The committee held a series of meetings to

come up with the gaps to be filled by the guidelines. Simple questionnaires were designed and distributed to students and staff to respond to questions relating to postgraduate studies in the faculty so that the committee members would consider issues and suggestions raised. It should be noted that these questionnaires were administered in a random manner but at least a good number was administered to capture enough details. This was done because the project was not really trying to find the problem, but only to get backup information, since the problem had already been identified. The third step was that the committee benchmarked with a few other universities in order to develop guidelines that would be beneficial to students in the FHSS at Chuka. This benchmarking was done with Kenyatta University, Centre of Development Studies (IDS) at the University of Nairobi, University of Pretoria, and the University of the Witwatersrand, Johannesburg.

After the lecturers and students responded to the questions, a meeting was held with the committee to discuss the responses. Subsequently, the dean prepared draft guidelines paying attention to the issues raised by the respondents, which she tabled in second committee meeting. A third committee meeting was held to finalize the draft guidelines. The guidelines (see appendix I) were tabled in the FHSS board meeting for discussion and improvement, and subsequently submitted to the management for approval. At the faculty level, students were invited for a sensitization workshop and issued with copies of the guidelines which marked the beginning of implementation.

5 Brief Literature Review

Many universities all over the world have one time or another reported poor progression of postgraduate students in their institutions. For instance, in a study on causes of attrition in private universities in Nairobi county, Kenya, Njoroge, Wang'eri, & Gichure (2016), argue that "student attrition presents a major concern for many institutions of higher learning as it either causes delays in degree completion or total dropping out from degree programs that students had enrolled in" (225). The three scholars quote Herman (2011) and show that a study conducted in a South African university established a 50% attrition rate among postgraduate students. Njoroge, et al., further posit that a South African study was done among graduate program leaders who were of the opinion that attrition happened due to students' personal reasons, students' lack of ability, skills or motivation to do a graduate program, students' lack of financial support, poor supervision and an inflexible policy of the universities (225). Bunting and Sheppard (2012) also argue that completion rates of doctoral studies in most South African universities remained below 20 percent until the year 2004 when it began to improve after a few intervention were made. Away from South Africa, Terence (2011) demonstrates that the average doctoral completion rates in Egypt were at 55% in humanities and 49% in social sciences (Quoted in Rong'uno, 2016). It can be argued that failure to complete studies by postgraduate

students is a widespread problem in Africa because similar issues were identified in FHSS. These findings from Africa corroborate the results of a study carried out by Creighton (2007) with students in American universities where she argues that students “often leave for personal reasons, job demands, dissatisfaction with the academic environment, and incongruence with campus values” (1). Creighton adds that low graduation rates often cost universities scarce resources, weaken the ability to meet educational objectives and reflect the university’s inability to meet the educational, social, and emotional needs of students. Such costs are not unique to America and therefore there is need for intervention in institutions of higher learning to reduce the hitches that cause students’ drop out from postgraduate programmes. Such drop outs make universities to lose revenue due to students not completing their degrees or taking more time to finish the degrees, therefore making planning for universities difficult and completion time uncertain.

Mwebi and Simatwa (2013) carried out a study among students in private universities in Kenya and found that 1.7% of students who had been admitted in private universities cycle for 2007/2008 academic year dropped out translating to 3.2% education wastage with a completion rate of 96.8%. While students in Kenya register in private universities by choice because they are able to meet the cost, the drop out shows that there could be other problems related to failure to complete studies other than finances. According to Rong’uno (2016), the process of acquiring a postgraduate degree, especially doctoral degree is a daunting task to many students because effective learning and timely completion of thesis development and writing process is dependent largely on accessibility to relevant reading materials. This can only be possible in universities where libraries are equipped properly and have advanced ICT services. Rong’uno however notes that development of ICT in most Kenyan institutions of higher learning is still far underway, which often affects not just timely completion of thesis writing process but it may also compromise the quality of education. Some of these issues were also identified by students and staff in the FHSS at Chuka University.

An audit carried out in Kenya by the Commission for University Education (CUE) revealed that that 50% of those who enrolled for Masters programmes between the year 2012 and 2016 failed to complete their studies, and less than 20% completed their PhD studies (CUE Report 2016). In this audit, 70 universities were sampled across the country and it showed that some postgraduate candidates took 9 to 14 years to graduate with PhDs. The CUE recommended the need for adequate number of qualified teaching staff to allow close supervision and consultation between the supervisor and the supervisee. This recommendation came along with the directives that all university lecturers attain a doctorate degree. While these directives from CUE are far from being adhered to, it is hoped that they will help improve the situation of postgraduate studies in Kenya and retain more students in the universities in future.

6 Findings

The discussion here is based on responses from both students and lecturers. As indicated earlier, questionnaires were given in a random manner but at least one lecturer was sampled from each discipline, mainly targeting lecturers who taught and supervised postgraduate students. A total of 18 lecturers responded to the questions. For students, there were 55 respondents, 15 of whom were PhD candidates and 40 Masters' students. This was just a mere representative number to gather opinion from the learners to give direction when preparing the guidelines.

7 Responses

7.1 Responses from Lecturers

7.1.1 Coursework

A majority of the lecturers (72.2 %) indicated that they were able to cover their coursework in class timely, while 27.8 % (5) indicated they were not able to finish teaching coursework within the allocated time. Those lecturers who were able to cover coursework timely argued that the time allocated for coursework was enough, while others availed themselves in class during their own free time to make sure the content was covered. Those who were not able to cover coursework timely said that students who study on part-time basis had very few contact hours which made it difficult to finish covering the course content, thus forcing the lecturer to compress the course material. This shortage of time was also indicated as the main cause of inability of postgraduate students to grasp the research process during coursework, regardless of how smart they were. Additionally, some students were said to be of less ability and thus they were not able to comprehend the course content clearly. As Samuel Siringi reports in the Kenyan *Daily Nation* on Friday 11th March (2011) the number of applicants for doctoral programmes in many universities in Kenya has continued to rise over time. Siringi attributed such increases to the fact that other than the urge to pursue knowledge, there is a high desire for educational advancement for purposes of promotion at the work place, which has motivated the desire for higher academic qualifications among elite. This being the case, therefore, many candidates register for postgraduate studies only to stall at some point because all they want is the paper certificate to get promotion. The academic rigor in postgraduate studies therefore frustrates such candidates.

7.1.2 Transition from Coursework to Thesis

It was noted that lecturers were comfortable with the period within which the unit on research methods was taught to postgraduate students. However, it was indicated that there were students who faced challenges during the transition from coursework to thesis writing because many lacked computers to carry out their work, caus-

ing delays. A few students were said to delay in making a decision on what to carry out their research on and thus they could not get their research problem. Others were not able to focus on their studies because they were working and therefore not able to multitask. Such issues result to overdependence syndrome with students expecting the lecturer to help them do much of their work, thus leading to frustration and withdrawal from studies.

To try and reduce the above mentioned hitches and improve transition from coursework to thesis writing, many lecturers proposed that the BPGS at CU, in conjunction with the faculties and the Senate should effect deadlines and impose financial penalties for students who delay. It was further proposed that students should be encouraged to attend conferences and seminars to interact with other scholars in order to boost their research skills. In addition, there was an indication that competent and committed lecturers should be assigned to tutor postgraduate students because some disciplines lacked capacity. This aspect of understaffing is common in most universities in Kenya and it has resulted to employing part-time lecturers, a practice labelled “moonlighting” which reduces commitment on the part of lecturers. According to Kimmel and Conway (2000), moonlighting is a reflection of the worker's choice to pursue entrepreneurial activities while maintaining the financial stability offered by the primary job. This means that many lecturers work outside their universities or get additional units to teach in their universities for extra payment, thus reducing commitment to teaching and research as these lecturers juggle to meet the needs of all the units. This results to underperformance.

7.1.3 Thesis Writing and Supervision

It was noted that the causes of failure of students to graduate timely included late submission of proposals, inability to be consistent and resilient, preoccupation with other activities outside class because many postgraduate students are working, failure to meet deadlines and financial issues. On the lecturers' part, it was noted that many lecturers do not take time to read students' work because of either laxity or being overwhelmed with a lot of work resulting from understaffing. Additionally, the management was also said to cause delays on students due to the fact that, first, there was no clear policy to guide supervision, second, unwillingness to engage specialized supervisors from other universities where the university lacks capacity, thus overloading lecturers, and third, poor remuneration for examiners and supervisors which demotivates them from exerting themselves. It was therefore suggested that lecturers be given reasonable workload and more lecturers be employed to enhance capacity of supervision. Many respondents also indicated that lecturers should create time for students and have a calendar of events with regard to supervision. Further, it was suggested that seminars be conducted in the FHSS to enhance students' research capabilities. The respondents also indicated that the University Management should ensure that postgraduate students study on fulltime basis, and also incorporate workshops to train and/or update lecturers' knowledge on supervision.

7.2 Responses from Postgraduate Students

7.2.1 Coursework Experience

When asked to show how the nature of interaction with lecturers helped them with coursework, many students indicated that lecturers gave them substantial reading assignments and that they took notes during the lectures. In addition, a number of respondents agreed that coursework helped them in their research process. However, there was a suggestion that research proposal development, methods of data collection and analysis should be enhanced. Discussions in class, the unit on research methodology, and seminar papers were mentioned as having helped a number of students to conceptualize their study. This means that on average, the units offered during coursework were taught well. This means there was a need to try and address issues outside classwork that cause impediments to student progression.

7.2.2 Transition from Coursework to Proposal Writing

Slightly more than half of the respondents (28) indicated that they did not have challenges in conceptualizing research problem, while 27 students experienced a few difficulties, which made them take longer to start the research process. It was noted that fulltime students and those who got supervisors early were able to finish in time, while part-time students stalled because they took longer to make corrections and return their drafts to the supervisors. These responses show that the part time mode of study was not ideal for postgraduate students since it caused them to stall as they concentrated on other issues outside research work. Being a full time students ensures that one takes time of work and concentrates on the research work, thus bringing timely completion. Possibly, this problem will be rectified in Kenya in future because as Augustine Oduor reports (*Standard Digital* 5th May 2018), there is a proposal by CUE that part-time studies, famously known as school-based programmes would be scrapped from the education system, although it has not been actualized. The system was christened school based for having emanated from scheduling classes at the university for high school teachers to further their studies during the school holidays.

The respondents further identified various problems that they encountered, like rude supervisors, delayed responses from supervisors, delayed defences, inaccessibility of reading materials and personal issues, to mention only a few. To improve on problematic areas, the respondents suggested that there was need to improve human resources, do capacity building, appoint dedicated supervisors, set serious deadlines for students, hold more seminars and workshops for students, demand progress report from students and discontinue or charge those who delay.

7.2.3 Thesis Writing

The respondents indicated that they preferred more interaction with the supervisor during thesis writing and that discovering new knowledge was exciting. However, there was an indication that students who disagreed with supervisors ended up be-

ing delayed. In addition, some students indicated that serious intervention was needed in methods of data analysis and how to interact with literature review, which caused them problems. Shortage of resources like research materials in the library also made students to get stuck while writing.

7.2.4 Supervision

While there was an indication of timely allocation of competent supervisors and involvement of students in the process of selecting supervisors, the respondents identified, delayed response from supervisors, disagreement between two supervisors, and fewer interactions with supervisors as causes of delays in the research process. These problems agree with a research carried out by Rong'uno (2016) on doctoral studies in universities in Kenya, mentioned earlier. Remedies for the above mentioned problems were identified as schedule official contact hours with supervisors to ensure efficient interactions, supervisors to assist students with research materials where possible, setting deadlines and outsourcing supervisors in areas where they are few.

8 Conclusion

From the summary of findings above, it is evident that both lecturers and students identified issues that caused delays in progression of postgraduate students. Generally, the findings indicate that at least both students and lecturers had problems in covering coursework; that there was inadequate time for research work due to the fact that most postgraduate students attended classes on part-times basis, making it difficult for them to concentrate on their research fully. It is also evident that shortage of human resources (qualified lecturers) made supervision of postgraduate students in the FHSS difficult. The admission criteria was also criticized by some respondents because it was linked to the issue of weak students who had long working experience, which qualified them to get admitted to postgraduate studies. This often makes it difficult for such students to catch up since they had been out of academics for longer periods. The clamour for more degrees in the Kenyan education system also caused an inflow of students into many institutions of higher learning, Chuka included, some of whom could not cope with postgraduate studies, while others just wanted to get the degree regardless of the procedure. Such assumptions frustrate many students when they realize that research work needs much more concentration than just getting the degree and thus they withdraw from studies.

The responses to the questions further demonstrate that many of the problems identified and solutions proposed by students corroborate the perspective taken by lecturers. Many of these responses were considered in preparation of the postgraduate guidelines for FHSS (appendix I), which was the general objective of the PAP. The guidelines contain six sections as follows:

1. Acronyms
2. Introduction

3. Obligations of Students Undertaking postgraduate Studies in the FHSS at CU
4. Best Practices to Improve Supervision in the FHSS/ Monitoring and Evaluation
5. Obligations of Chuka University Management to Make the Guidelines Successful
6. Bibliography

There are two main committees that were established through the guidelines. First, there is the Faculty of Humanities and Social Sciences Postgraduate Committee (FHSS-PC), which is responsible for monitoring the progress of postgraduate students in the faculty. Secondly, there is the Faculty of Humanities and Social Sciences Seminars and Publications Committee (FHSS-SPC) tasked with organizing academic seminars in the Faculty and sourcing possible avenues where students and staff can apply for funding, attend conferences and publish their research work. Aspects that could not be handled at the faculty level like employing qualified supervisors in every discipline and developing a written policy on outsourcing of supervisors was tasked with the University Management under section 5 of the guidelines.

9 Recommendations

Following the results of the responses, and the PAP objectives, a number of recommendations were made with the aim to improve transition of postgraduate students in the FHSS.

- i. Postgraduate studies to be done via fulltime mode to allow more time for study.
- ii. Students to be encouraged to take leave from work to concentrate on their studies on full time mode.
- iii. Revise the admission criteria for postgraduate studies so that those who have freshly finished are given the first priority instead of tagging admission on work experience.
- iv. University to effect set deadlines and financial penalties for overstaying at the university.
- v. Employ enough qualified and competent staff members in all disciplines.
- vi. Improvements in learning environments and purchase of resources like more computers and library books.

10 Milestones from the PAP

After finalizing the guidelines for postgraduate students in the FHSS, a sensitization meeting was held with all postgraduate students in the Faculty and subsequently more students were able to pick up their research. In addition, a number of students were able to voice complains through the channels that were put in place through the guidelines and unreliable supervisors were changed as per section 4 (viii) and (ix) of the guidelines (see appendix I). Four seminars were also organized in the Faculty

by the FHSS-SPC between July and September 2018, where twelve (12) postgraduate students presented chapters from their work. In addition, the idea of organizing seminars/training for supervisors (Section 5(ii), appendix I), was embraced by the BPGS and one such training for all supervisors at CU was carried out in June 2018. The process of procuring an anti-plagiarism software to help monitor/check plagiarism in students' work was also initiated by the University Management in consultation with the chief Librarian.

The IDC PAP project was therefore of great help not just in enriching research practices in the FHSS, but it also had an impact on Chuka University at large.

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Appendix I

FACULTY OF HUMANITIES AND SOCIAL SCIENCES

Guidelines Governing Postgraduate Studies in the Faculty of Humanities and Social Sciences

1. Acronyms

BPGS	Board of Postgraduate Studies.
COD	Chair of Department
CU	Chuka University
CUE	Commission for University Education
DVC (ARSA)	Deputy Vice-Chancellor (Academic, Research and Student Affairs)
FHSS	Faculty of Humanities and Social sciences
FHSS-PC	Faculty of Humanities and Social Sciences Postgraduate Committee Will be referred to as PC in short
FHSS-SPC	Faculty of Humanities and Social Sciences Seminars and Publications Committee Will be referred to as SPC in short.
PhD	Doctor of Philosophy
VC	Vice – Chancellor

2. Introduction

1. This document is prepared for use by the Faculty of Humanities and Social Sciences in order to help both students and supervisors navigate the course work and research process smoothly.
2. These guidelines apply to both fulltime and part-time students in the faculty.
3. There shall be a Faculty representative to the Board of Postgraduate Studies (BPGS) who will act as a link between the Faculty and the board.
4. There shall be a Postgraduate Committee (FHSS-PC) in the faculty chaired by the faculty representative to the Board of Postgraduate Studies (BPGS) to ensure that these guidelines are implemented.
5. There shall be Seminars and Publications Committee (FHSS-SPC) to organize academic seminars in the Faculty, which will allow academic interactions in the Faculty and in addition, assist students in attending learned conferences and publish their articles in referred journals.

This document has the following parts that are subject to approval by the CU Management/Senate:

1. Guidelines for students undertaking postgraduate studies in the FHSS at CU.
2. Best practices to improve supervision in the FHSS/ Monitoring and Evaluation
3. Obligations of CU Management to make these guidelines successful.

3. Obligations of Students Undertaking postgraduate Studies in the FHSS at CU.

a. Course Work

- i. Postgraduate students in the FHSS will undertake coursework in the first year as stipulated in the Chuka University catalogue.
- ii. Towards the end of the first semester of coursework, a seminar on proposal writing will be organized by the FHSS-PC.
- iii. During the second semester students shall draft their concept papers using the knowledge gained in class and from the proposal writing workshop.
- iv. A second workshop will be held in the second semester and all students shall attend in order to update their research skills and seek clarifications where necessary. For part time students and those disciplines that undertake three semesters of coursework, the second workshop will take place in the third semester/block.
- v. The proposal writing workshops are compulsory.
- vi. All students will present their proposal concepts to a committee of experts selected by the FHSS-PC, in consultation with the CODs and the Dean in the second semester of coursework.
- vii. Students whose concepts are passed will be allocated supervisors by the COD to proceed to their second year. These supervisors will be allocated following the guidelines provided by the CUE and such supervisors shall be approved by the BPGS once the proposal goes through the faculty defense.

b. Supervision Period

- i. At the beginning candidates and supervisors must meet to discuss:
 - a) Student/supervisor roles.
 - b) The frequency, duration and purpose of supervisory meetings.
- ii. There will be quarterly reports by the supervisor and the student submitted to the FHSS-PC.
 - a) Supervisors shall give reports for all students under their supervision, including those who have absconded studies.
 - b) Students shall submit reports of their meetings with supervisors to the FHSS-PC.
 - c) In the event that such meetings, mentioned above do not take place, both the student and the supervisor shall give a report to the Dean through the COD for further action.

- iii. Students must:
 - a) Negotiate the timing of periods of holiday/leave with their supervisors.
 - b) Advise their supervisors if they are unavoidably absent (e. g. due to illness or family obligations).
- iv. Students shall present their preliminary results of their research to a panel of experts proposed by the supervisor and the COD before proceeding to write their thesis. This panel will advise the student on how to make their research ideas better. Where results will be found wanting, students will be advised accordingly before proceeding.
- v. Students shall present at least one (1) article for Masters and two (2) for PhD students from their research in the academic seminars organized in the FHSS-SPC before submitting their thesis to the BPGS.

4. Best Practices to Improve Supervision in the FHSS/ Monitoring and Evaluation

- i. All members of the FHSS (lecturers and students) shall adhere to these guidelines.
- ii. All postgraduate students in the FHSS shall register with the PC.
- iii. There shall be organized academic seminars/workshops in the faculty at least twice per semester.
- iv. Novice supervisors will attend supervision seminars organized yearly by CODs in consultation with the Dean and DVC (ARSA). These seminars will be open to older supervisors who wish to refresh their approach to supervision.
- v. There shall be a thesis diary to be signed by the supervisor.
- vi. Supervisors shall give feedback to students two weeks after submission of their work.
- vii. Students shall work on their corrections promptly in a period agreed between them and the supervisor.
- viii. In the event of a breakdown in relations between the candidate and thesis supervisors, the student shall write a letter to the COD for such cases to be addressed.
- ix. Supervisors who delay students shall be consulted by the Dean and COD to address the issue.
- x. In cases where supervisors do not agree, a consensus will be reached through consultation with the Dean, COD and other experts in the field of student's research.

5. Obligations of CU Management to Make these Guidelines Successful

- i. To facilitate at least two workshops for postgraduate students in the faculty per year.
- ii. To facilitate yearly seminars for supervisors in the Faculty to refresh on handling of postgraduate students.
- iii. Ensure that there are enough qualified supervisors in every discipline and minimize admission of students on part-time mode.

- iv. Develop a written policy on outsourcing of supervisors.
- v. Revise the admission criteria for those who have freshly finished to be given the first priority.
- vi. Help expedite the process of the Ethics Committee at CU where students' proposals often delay.
- vii. Purchase an anti-plagiarism software to help monitor/check plagiarism in students' work.
- viii. To approve the FHSS proposal of actions to be taken by/on postgraduate students who delay in their studies as follows:
 - a) Once the expected period of study expires;
 - i. Students shall write a request for extension of the study period to the BPGS through the COD and the Dean FHSS.
 - ii. Once the one year extension expires, the students will be charged full fees afresh (yearly) until they clear their studies.
 - 1. Masters – after two years for full time students and three years for part time students.
 - 2. PhD – After three years for full time students and five years for part time students.

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Improvement of Students' Course Evaluation and Teaching Tool at Mkwawa University College of Education, in Tanzania

NYATWERE DONASIAN MGANGA

Abstract

This paper is based on the author's Project Action Plan (PAP) after participation in the International Deans' Course Africa 2017/2018. The course aimed to prepare heads of departments, associate deans and deans to effectively perform their responsibilities in dynamic systems of higher learning. The course was organised by the German Academic Exchange Service (DAAD), German Rectors' Conference (HRK), Osnabrück University of Applied Sciences, the Centre for Higher Education (CHE), Humboldt Foundation, Free University of Berlin, Makerere University and Addis Ababa University. Quality Management was among the modules that were covered during the course. After going through the European standards and guidelines for quality assurance in higher education systems (ESG), it was realised that no policy statement is on the ongoing students' course evaluation and teaching tool and, statement of instructors' observance to sexual harassment code which is not known by majority of students, absence of clear link between up to date skills of instructors and his/her competences, difficulty in evaluating instructors preparedness, absence of room for students to evaluate course outlines that are drawn from the synopses and fairness in grading of results under unclear conditions. Thus, there was a need to revisit the tool used by students to evaluate part of internal quality at MUCE. The method used in the project was problem-solution trees; the College Principal, College QA (Quality Assurance) Coordinator, three QA representatives from the three faculties, ten academic staff from each of the three faculties and two students' leaders from DARUSO MUCE (Dar es Salaam University Students Organisation at MUCE) were engaged in the study. The revised tool with attributes that demand information about blended modes of course delivery, use of modern technology in teaching and learning thereby relating course objectives as well as assessments to learning outcomes, mutual respect between instructors and learners through promotion of anti-sexual harassment using student-centred approach as well as inclusion of policy statement was developed. The tool awaits incorporation in the document under review by the QA Bureau of the UDSM prior to implementation. The tool will form the basis for internationalisation of courses through revision due to inclusion of ESG, enhance teacher professionalism, promote student-centred approach and maximise interactions between instructors and learners. It is recommended on incorporation of open-ended questions so as to capture more information from students.

1 Introduction

Modern African public universities started as university colleges based in Europe during colonialism (Mohamedbhai, 2016). According to Mohamedbhai (2016), after independence in 1960s these institutions were transformed into fully fledged universities. Such transformation was accompanied with the adoption of European academic structure, governance, curricula as well as methods of instruction. Between 1960 and 1980, several universities became centres of excellence to include Makerere, Ibadan and Khartoum. Since then, African universities have been struggling to offer higher education, despite the challenges emanating from wars, economy and political instability. By that time quality assurance was not a prominent agenda in the advancing African universities. In recent years public African universities have been facing challenges resulting from increased numbers of students, limited funding by governments, limited infrastructure for teaching and learning, shortage of qualified academic staff, unpredictable employment for graduates and poor governance. These problems forced African universities to find solutions to the outlined problems. This is when an agenda for improving quality in higher education during the 21st century started. The agenda has been therefore to control student enrolment based on capacity, expansion of physical infrastructure, little increase in governmental support for universities, staff training and retention, regular recruitment of academic staff and regular replacement of retired ones, increasing research outputs, alternative income generation in universities through cost sharing, relevance of programmes offered and the labour markets, improved governance and management of higher learning institutions, increased use of information technology in research, teaching and learning as well as administrative endeavours. According to Mohamedbhai (2016), between 1990 and 2000, several African higher learning institutions (University of Mauritius, St Mary's University College (Ethiopia), University of Dar es Salaam) introduced quality assurance through collaboration with European universities. In 2001, South Africa established the South Africa's Council for Higher Education which was the first movement in Africa towards quality in higher education institutions at national level. Currently, quality assurance in higher education institutions for several African countries is controlled by either Commissions or Councils, for example; Nigeria, Kenya, Mauritius, Ghana. Initiatives to promote quality assurance have been developed particularly at regional levels, for example in 2005 the Inter-University Council for East Africa (IUCEA) was established aiming at promoting quality assurance systems in public and private higher learning institutions in six East African countries (Tanzania, Kenya, Uganda, Rwanda, Burundi and South Sudan) under the support of DAAD. The IUCEA have developed criteria and standards aiming at facilitating networking among universities in and outside East Africa, providing a platform for discussion of diverse academics and related matters, as well as facilitating sustainability of internationally comparable education standards in East Africa (IUCEA, 2010; www.iucea.org/index).

However, IUCEA has been facing a number of challenges to include lack of experts in quality assurance, lack of physical infrastructure to support the ever increasing numbers of enrolled students in higher learning institutions and limited government support in member institutions (www.iucea.org/eahea1/regional-quality-assurance-system/milestones).

2 The Trend of European Quality Assurance in Higher Learning Institutions and Lessons Learnt

Provision of quality higher education has been a pushy agenda worldwide. This is exemplified by movements in many regions most importantly Europe, where efforts to normalise higher education systems have spread in many countries. During the International Deans' Course Africa 2017/2018 a number of modules were covered, including quality management in universities. European quality assurance systems in higher learning institutions have passed through different stages of developments and have stimulated other regions worldwide. For example, the Bologna process has resulted into commencement of regional reform schemes in Asia-Pacific, parts of Africa, Latin America and the Caribbean (Vögtle, 2010).

Ministers responsible for education in Germany, France, Italy and Great Britain signed the Sorbonne Declaration aiming at synchronising their education systems, particularly criteria and methodologies of quality assessment (Sorbonne Declaration, 1998). Thereafter, the Bologna Declaration was signed by twenty-nine European education ministers aiming to establish the Higher Education Area in Europe by 2010. The Bologna process composed of governments, ministries responsible for higher institutions, rectors' conference, university associations, student unions and quality assurance agencies (Bologna Declaration, 1999).

During the Berlin Summit held in 2003, ministers responsible for education in Europe insisted on the need for countries in the Higher Education Area to cooperate with other countries worldwide to promote and sustain quality in higher education systems (Berlin Communiqué, 2003). Consequently, the process led to the establishment of the European Higher Education Area (EHEA), through the Lisbon Recognition Convention in 2003 (Michalk, 2017).

Following the Berlin Communiqué, concrete measures to be used in application of the Bologna process were put forward in 2005 (Vögtle, 2010). It was also agreed on internal and external evaluation of programmes and study courses by international experts and students and results published (Bergen Communiqué, 2005). In line with the initiatives for application of the Bologna process, guidelines for implementation of a system accreditation and certification were stipulated (Ibid.). Apart from the mentioned resolutions of the Bergen Communiqué, ministers made an agreement on adoption of standards and guidelines for quality assurance in the European Higher Education Area. Thus, European register of quality assurance was established in line with four relevant bodies commonly known as 'E4' (Bergen Communi-

qué, 2005). The E4 comprises of the European Universities Association (EUA), European Association for Quality Assurance Association in Higher Education (ENQA), the European Association of Institutions in Higher Education (EURASHE), and the European Students Union (ESU). These agencies were tasked to develop quality assurance standards and guidelines for application in the established register (Bergen Communiqué, 2005). This was followed by the London Summit during which the register on allowing all stakeholders and the general public to have accessibility to information about alignment of quality assurance and, European standards and guidelines (ESG) was approved (London Communiqué, 2007).

In 2007, the European ministers responsible for education approved the E4 to formulate the European Quality Assurance Register for Higher Education (EQAR). The register that was developed consisted of European standards and guidelines (ESG) that currently serve as criteria and useful information on quality assurance agencies in Europe (Education International, Business Europe, European Quality Assurance Register for Higher Education) and elsewhere (London Communiqué, 2007).

The standards and guidelines for quality assurance (ESG) in the EHEA 2015 were finally approved by the ministers of higher education for application despite the mode of study or location of member institutions. Also, this entails that ESGs are applicable to higher learning institutions beyond the European borders (ESG, 2015; Michalk, 2017). The ESG document has three parts named, external quality assurance, internal quality assurance and quality assurance agencies. By consideration of this project which aimed to bring change in internal quality assurance at Mkwawa University College of Education, the following standards and guidelines need to be implemented.

According to the ESG (2015), ten standards and associated guidelines for compliance with the Bologna process are outlined. The first standard is that institutions should have a policy on quality assurance, formulated by internal stakeholders. The policy should be implemented by internal stakeholders in their respective structures and processes thereby engaging external stakeholders. The most effective policy on quality assurance shows the relationship between teaching and learning, and research as reflected in the national and institutional perspectives, as well as the strategic management. In that regard, the guidelines entail the policy to support; the structure of quality assurance system within an institution, the organisational structures (units, departments, faculties, schools), quality assurance responsibilities of leaders, staff and students, academic freedom and integrity while acting contrary to fraud, avoiding staff and student discrimination of any kind and, engaging external stakeholders in quality assurance.

The second standard is the design and approval of programmes that entails institutions to have well known procedures for the design and approval of offered programmes. Sound programmes should have clear objectives and vivid expected learning outcomes. The academic qualifications attached to the programmes must be made clear for the general public and correlate to professional levels that are recognised by the nation in the context of higher education and the Bologna process as

translated within the EHEA. The guidelines to support designed and approved programmes include; the institutional objectives and learning outcomes stipulated in the strategic plan, students and other key stakeholders should be engaged in programme designs, enrichment by external expertise and reference areas for concrete professionalism, purposes for providing higher education by the Council of Europe, intellectual ability of students to pass through several developmental stages, student workload in the proposed programme, placement opportunities (traineeships, internships) for students during the course of study and institutional formal processes for programme approval.

The third standard is student-centred learning, teaching and assessment which require students to make sure that the mode of programme delivery stimulates students thereby facilitating learning process; also, assessment methods should reveal the named mode. The guidelines to achieve student-centred learning, teaching and assessment include; respect and attention to all students regardless of their diverse needs, consideration and use of different modes of programmes delivery, switching from one pedagogical method to another during teaching, evaluation and adoption of different modes of course delivery and pedagogical methods, instilling a sense of self enquiry to students while facilitating them to learn through guidance and support, promoting two-way respect between teacher and student and applying proper mechanisms of dealing with learners' problems. Furthermore, quality assurance guidelines on students' intellectual ability developments through various levels of study and subsequent career choices include; competence of examiners in modern testing and examination methods and regular relevant trainings, public awareness of the criteria and methods used in testing/assessment and marking, treatment of assessments as opportunities given to students to demonstrate the intended learning outcomes and associated feedback as teachers' advice, administration of assessments by more than one examiners under similar conditions, regulations governing examinations/tests considered as conditions for rectifying unusual conditions in teaching and learning, consistence in assessments during the course of study and formal steps to be taken by students intending to appeal against assessment results.

The fourth standard is that institutional guidelines governing students' admission, progression, recognition and certification should be established in advance and well known to the general public. To ensure this standard, the guidelines include; accessibility and transparency of policies, admission processes and criteria, induction to the institutions and programmes needs to be given, availability of processes and tools to gather information on students' progression and monitoring of the said. Also, fairness in practising the principles of the Lisbon Recognition Convention in recognising qualifications needed for student enrolment, period of study, prior-learning, recognition of formal and informal learning, cooperation with other institutions, cooperation with quality assurance agencies, student's award indicating the qualifications attained, learning outcomes, study context, level and status as well as completion.

The fifth standard is for institutions to ensure that they have competent instructors. Also, there should be transparent processes that are involved in staff recruitment and subsequent development. Guidelines to support this include; instructors to ensure that students gain experiences thereby enabling them to acquire knowledge, competences as well as skills, student-centred learning and teaching, also, given the diverse learners' population and target on learning outcomes, suitable environment should be provided which renders transparent and fair procedures for staff recruitment and conditions for employment, well defined opportunities for professional development of instructors, promotion of scholarly activities so as to ensure that strong link exists between education and research, thereby promoting innovative teaching methods and use of new technological methods.

The sixth standard is for institutions to set adequate fund to ensuring that there as sufficient learning resources and giving full support to students. The guidelines include availability of physical infrastructure (libraries, study facilities, information technology infrastructure) to facilitate mobility of students under different higher education systems. Appropriate resources, student-centred learning and flexible modes of course delivery to meet the diverse needs of students' population (mature, part time, employed international students as well as physically challenged students (with disability)), provision of regular on job training to support and administrative staff so as to equip them with competences needed in appropriate service delivery.

The seventh standard is for institutions to ensure that information is collected, analysed and used for effective management of programmes and activities. The guidelines associated with the named standard include; gathering of the right information which assists decision makers to clearly figure out what is going well and what needs rectification. Information collected depends on the type of institutions and their missions. Thus, information should indicate key performance indicators, profile of the students' population, academic progression of students (success and drop – out rates), satisfaction of students with their programmes, learning resources and support given to them, including their career paths after graduation and most importantly staff and students need to be engaged in provision and analysis of information as well as in future planning.

The eighth standard requires institutions to ensure that their information about programmes offered and activities is accurate and easily accessible by the general public. Guidelines for the standard include; accessibility of information and activities to ongoing students, future students, graduates and other stakeholders. Thus, selection criteria for the offered programmes, intended learning outcomes, qualification awarded, teaching and learning as well as assessment methods, pass rates, opportunities for learning and employability of graduates need to be open.

The tenth standard is that institutions should provide opportunities for monitoring and reviewing of programmes offered accordingly so as to achieve the objectives and fulfil the needs of students and societies. Regular reviews ensure improvement of the programmes. Actions that are taken after the review process need to be communicated to all responsible parties (students inclusive). Guidelines on this standard

include; provision of opportunities to monitor and review contents of programmes by consideration of current advances in research in different fields of study, changing needs of societies, student workload, progression and completion, efficacy of students' assessment methods expectations, their needs, satisfaction, learning environment, support services and their correlation with the programmes offered also need to be considered.

The last but not least standard requires institutions to have external quality assurance done cyclically in line with ESG. The guidelines attached to this standard include; external quality assurance giving information about the efficiency of internal quality assurance, use of feedback given by external quality assurance in making improvements and moving to an upper step in terms of quality, the general public to be informed of the quality activities that are carried out by institutions, external quality assurance be done at different organisational units such as faculty programmes. Also, institutions should make use of preceding comments of external quality assurance for future improvements based on the fact that the exercise is cyclical.

The European Association of Quality Assurance Agencies (ENQA) insists on collection and analysing of relevant information as one of the key elements of sound internal quality assurance in higher education institutions (Mayer, 2017b). To implement the Bologna process, institutions worldwide should sensitise stakeholders on quality assurance and the need to develop a culture of quality and treat the surrounding impediments as prerequisites for getting started (Mayer, 2017a).

3 Evolution of Quality Assurance at the Mkwawa University College of Education

Tanzanian higher education system has grown from simple to complex. The system dates back to 1961 when there was only one University College; an affiliate College of the University of London which is now the University of Dar e Salaam (UDSM) (United Republic of Tanzania (URT), 1984). In 1995 the Higher Education Accreditation Council (HEAC) was established and played the role of evaluating higher learning institutions in the country. In 2005 the council was replaced by the Tanzania Commission for Universities (TCU) to overcome shortcomings of the former. TCU aims to recognize, approve, register and accredit higher institutions in Tanzania (TCU, 2016). One of the main roles of TCU is to regulate higher learning institutions. This is done through periodic evaluation of systems and programmes of universities aimed at enhancing quality.

Evaluation of courses by students was established in 1960s (Cahn, 1986). The essence of establishing tools/instruments for students to evaluate courses was to measure teaching effectiveness and actual learning (Wang and Schumann, 1980). Students' course evaluation and teaching tools thus serve as umbrellas embracing information on the quality of instruction, students' knowledge and learning. In that

regard in any tool/instrument these three major parts must be logically and critically broken down to accommodate reliability, validity and appropriateness.

The University of Dar es Salaam has been struggling to improve teaching and learning since 1978, when Teaching and Learning Improvement Programme (UTLIP) was established. UTLIP aimed at monitoring, improving, promoting, enhancing, maintaining, reviewing and documenting quality assurance instruments in the teaching and learning processes. In 2002, the UTLIP functions were integrated into the Centre for Continuing Education (CCE) to widen the scope of quality assurance activities at institutional level. In 2007, the UDSM approved the Quality Assurance (QA) Policy which established the Quality Assurance Bureau (QAB). The Bureau has a mission to constantly monitor and evaluate quality assurance processes in the University.

As a Constituent College of the UDSM, Mkwawa University College of Education has a role to play in the development of the country through provision of quality teaching, research and public service (consultancy). In 2014 MUCE developed its Quality Assurance Policy by customising that of the UDSM (Mwalimu Nyerere Main Campus). Customisation of the UDSM QA Policy considered teacher-training philosophy in relation to the environment of the College. MUCE Quality Assurance Policy therefore aims to ensure that relevant and appropriate standards are achieved and good quality education is provided to students by encouraging and supporting continuous quality improvement in institutional as well as in programme and research management.

The issue of quality education has become a prominent agenda in all higher learning institutions worldwide. Given an umbrella of globalisation in which universities are operating, the pressure to meet international standards in terms of inputs, processes and outcomes has become very high. It follows that, management of quality particularly internal which aims to meet targets of key stakeholders is given the highest priority. Thus, institutions like MUCE are battling in quite different ways to satisfy the needs of governments, academic world, students, parents, employers and the society around. By consideration of core functions of teaching, research and public services; universities struggle to ensure that they offer up – to – date programmes, regularly improve the strategies used in teaching and learning process, their products satisfy needs of labour market, steadily increase students' enrolment at the same time lowering numbers of students who get discontinued from studies.

Yet in the ongoing students' course evaluation and teaching tool at MUCE there was no policy statement and, statement of instructors' observance to sexual harassment code which is not known by majority of students, absence of clear link between up to date skills of instructors and his/her competences, difficulty in evaluating instructors preparedness, absence of room for students to evaluate course outlines that are drawn from the synopses and demand for evaluating fairness of instructors in grading of results under unclear conditions and therefore the tool needed refinery. Thus, the proposed project aimed to develop revised students' course evaluation and teaching tool at MUCE.

4 Profile of Institution

4.1 Establishment of Mkwawa University College of Education

Mkwawa University College of Education is located in Iringa region, Southern Highlands of Tanzania (Figure 1). The College is within the then Hehe Empire about 506 Km away from the UDSM. The College was established as a constituent college of the UDSM on the 1st of September 2005 by upgrading the former Mkwawa High School, in response to an increase in demand for teachers in the country. Mkwawa High School was first established as an 'Ordinary' level school in 1959 and was called St. Michael and St. George's School. In 1964, it became a High School, officiated by the First President of the United Republic of Tanzania (URT), the late Mwalimu Julius K. Nyerere. In 1964, the school was renamed in honour of Chief Mkwavinyika Munyigumba Mwamuyinga commonly known as Chief Mkwawa, who was a Hehe tribal leader in German East Africa (1855–1898). In 1977, the School was converted into a Teachers Training College (TTC) that offered certificate and diploma programmes in education. In 1992, it was reverted to a High School, which was later upgraded to a constituent college of the University of Dar es Salaam (UDSM) in September 2005.

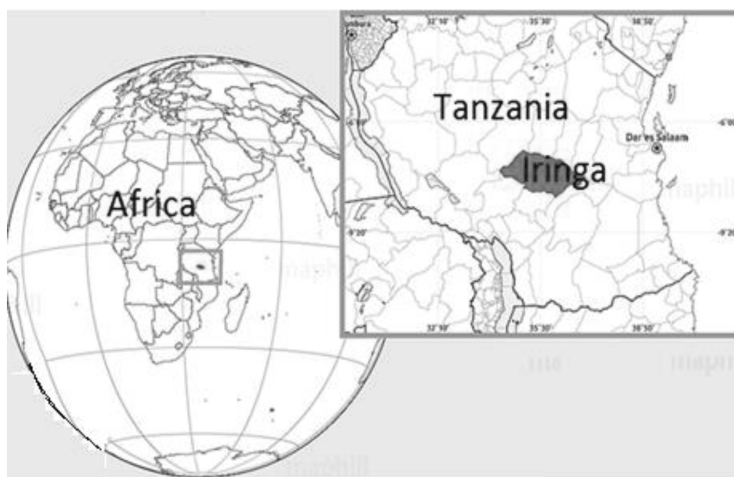


Figure 1: Location of Iringa in Tanzania (Source: Maphill, 2011)

4.2 Vision and Mission of Mkwawa University College of Education

The vision of Mkwawa University College of Education is to become a centre of excellence in producing innovative and inspired teachers and leaders by providing integrated quality education. In order to fulfil its vision the College quests to deliver quality teaching, research and public services in education geared at transforming society (MUCE, 2015).

4.3 Faculties and Programmes at Mkwawa University College of Education

Mkwawa University College of Education has three (3) faculties (Education; Humanities and Social Sciences; Science) with in total 7 degree programmes. Of these, four are offered at an undergraduate level and three at Master's level. Currently, the College offers teaching skills to natural and social scientists. Establishment of non-education programmes in the College is underway.

5 Project Action Plan

5.1 Activities and objectives achieved

This project is based on the course that was conducted for deans (IDC) between 2017 and 2018. The ongoing students' course evaluation and teaching tool at Mkwawa University College of Education had some irrelevant questions by consideration of the international standards for internal quality assurance in higher learning institutions. The main goal of the project was therefore to develop a revised tool for students' course evaluation and teaching at Mkwawa University College of Education. The PAP was designed by indicating activities that were to be carried out and resulting objectives.

Sensitisation of MCUE community on the necessity of reviewing the existing students' course evaluation and teaching tool was carried out by briefing the College Principal and Deputy Principal (Academic) about part I of Deans' course in Germany and the PAP. This was followed by a meeting with the College Coordinator of Quality Assurance to introduce and discuss the need to improve the students' course evaluation tool. The meeting with academic staff to introduce and discuss the need to improve students' course evaluation and teaching tool was organised. Then, a team of seven people was created. These activities ended with achievement of the objective on involvement and sensitisation of the community of Mkwawa University College of Education on the need to review the existing students' course evaluation and teaching tool.

Another key task was developing problem-solution trees on the existing students' course evaluation and teaching tool. This stage involved extensive literature review on students' evaluation of courses and teaching, generation of information on existing gaps and formulation of problems and solutions associated with the existing tool and organisation of the meeting with staff members to agree on the problems and solutions associated with the existing students' course evaluation and teaching tool proposed by the team. Ultimately, an objective on development of draft 1 of the document elaborating problems and solutions associated with the existing students' course evaluation and teaching agreed upon by stakeholders was achieved.

The third task was to develop customised students' course evaluation and teaching tool. This was initiated by identification of all criteria which will be used to evaluate courses and teaching by students. This was followed by development of the students' course evaluation and teaching tool. The developed tool was tabled and

discussed by all faculty staff and corrected. The third objective was achieved by developing the draft tool with stakeholders' inputs.

The fourth task involved procedures for the approving the reviewed students' course evaluation and teaching tool by the MUCE and UDSM participatory organs. The procedure involved organisation of faculty board meeting to discuss and recommend the reviewed students' course evaluation and teaching tool to the College Academic Committee (CAC) for recommendation. Thereafter, CAC directed on channeling the revised tool to the Quality Assurance Bureau of the UDSM for incorporation of the PAP inputs with the ongoing review process. Thus, an objective on approval of the final draft of students' course evaluation and teaching tool approved by the UDSM Senate was indirectly achieved by channelling the tool to the UDSM QA bureau through MUCE QA unit.

5.2 Success of the Project Action Plan

- Acceptance from the top College Management.
- A revised students' course evaluation and teaching tool with inputs from the three Faculties, representative students, Faculty of Science Board and College Academic Committee was developed.
- It is the first revision of the course and teaching evaluation tool in the College.

6 Significance of the project

Through application of some of the standards and guidelines of the ESG, developed teacher professionalism is expected through engagement of course instructors in revising the quality assurance policy and regularly updating courses, this guarantees them to take full responsibilities and effectively use student-centred learning and teaching thereby creating suitable environment for students to acquire knowledge, skills, think critically and become competent in their fields of study. Optimised teaching and learning resources through extensive preparations and internalising the type and nature of resources needed to meet the needs of students will result from this project. This is because course instructors will be able to relate the resources needed and the desired learning outcomes. The project will also result into operationalised learning objectives by improving methods of course assessments through consideration of the learning outcomes as reflected in the course objectives. Improved course sequencing is expected as well through proper preparations of course outlines and breakdown of contents into logical and manageable parts thereby switching from one pedagogical method to another. Furthermore, the project is likely to render enhanced teacher - student interaction through the use of student-centred learning and teaching, blended modes of course delivery and modern technology in teaching up-to-date course contents that usually end up enhancing good relationships among learners and between instructors and learners because of the multiple interactions. Improved course assessment mode is expected through estab-

lishment of correlations in examinations/tests, course objectives and the intended learning outcomes. Likewise, rules and regulations that govern conduct of examinations/tests will no longer be seen as means for accusation rather, mitigation tools.

7 Risks of the project

Biasness of students based on gender, ethnicity and personality of course instructors when evaluating courses. Based on gender, students may distort the essence of evaluating courses and instructors by giving rates that are not appropriate. For example, in some African societies there is a myth that women do hate each other and instead they like men. Students believing in this myth may deliver wrong information pertaining female course instructors. Likewise, in societies where tribalism, racism or civil wars are common, students are likely to evaluate attributes of course instructors based on ethnicity, race or side of involvement in the war. In this case information sought for course instructors may not be obtained for appraisal or improvement.

Direct relationship may exist between instructors' ratings and students' grades in examinations. There is a tendency for some students to lowly grade course instructors simply because they are likely to completely fail the course or pass at the lowest pass grade. On the other hand, excellently performing students may be highly motivated and award very high scores that do not reflect the reality. Ultimately, correlation between student performance and rating on quality assurance arises though not expressing the actual situation.

Newly transferred students required to evaluate ongoing courses. Newly transferred student(s) to a particular higher learning institution may give inappropriate information especially when not given chance to customise with the programmes and activities that are being carried out in the new environment. As a result inappropriate information about courses and teaching is likely to be collected from such student/students and distort the results subject to their numbers.

There has been a tendency of evaluating courses with different levels of difficulty in the same way. This may result into ratings that are directly related to the level of difficulty of courses and therefore on the other hand, not giving concrete information on the need for revising the programmes that seem to be simple that are excellently rated by majority of the students.

Limited numbers of students to undertake course evaluation in some courses since the numbers of students registered in different courses differ, in some institutions for statistical purposes a fixed number of students to be engaged in evaluation of courses is normally set especially for big classes. This situation warrants some students to intentionally escape from evaluating courses and teaching by treating the exercise as optional. As a result information collected from students concerning courses and teaching end up being limited.

Anonymity of students during evaluation warranting irrelevant responses as the tools used for evaluation of courses and teaching by students can either comprise of

objective questions or a mixture of objective and open ended questions. However, in certain instances students have been observed responding to open ended questions by giving information which is not related to the purpose of questioning and not even decent. This ends up denying institutions the right to collecting information from students who are crucial stakeholders in education.

Negative responses from some course instructors. Despite the struggle of higher learning institutions worldwide to promote, establish and sustain quality assurance in their programmes and activities, still there are some course instructors who perceive this in a negative way. Complaints of these instructors arise from being assessed and judged by students who seem to be juvenile in terms of academic levels, intellectual abilities and experiences. Thus, these groups of people always do interfere with the practice of ensuring and maintaining quality in institutions and may even transmit the negative attitude to students, thus interfering with collection of information.

8 Methodology

The project was carried out at Mkwawa University College of Education located in Iringa Region of Tanzania. Mkwawa is a Constituent College of the University of Dar es Salaam. During Part I of the International Deans Course Africa 2017/2018, particularly after coverage of the module on quality management, the author decided to incorporate some standards and guidelines of the Bologna process in the MUCE's tool used by students to evaluate courses and teaching. It was observed that no policy statement is on the ongoing students' course evaluation and teaching tool and, statement of instructors' observance to sexual harassment code which is not known by majority of students, absence of clear link between up to date skills of instructors and his/her competences, difficulty in evaluating instructors preparedness, absence of room for students to evaluate course outlines that are drawn from the synopses and fairness in grading of results under unclear conditions. Initially, the project action plan was developed, indicating activities that were to be carried out in relation to time. Then, the problem-solution trees were used to indicate problems associated with the ongoing students' course evaluation and teaching tool. Stakeholders who were engaged in this project were; the College Principal, College QA Coordinator, three QA representatives from the three faculties, ten academic staff from each of the three faculties and two students' leaders from DARUSO MUCE (Dar es Salaam University Students Organisation at MUCE) since other students were on long vacation.

9 Results and Discussion

Proper use of sexual harassment and anti-sexual harassment, awareness of instructors' up to date skills, competences, levels of preparations, fairness in grading marks and updating of lecture notes were identified as solutions to problems identified in Figure 2 (Figure 3). These solutions were used to formulate appropriate questions for the revised tool as; instructor's observance of anti-sexual harassment, Instructor's ability to give direction for you to become competent in the subject matter, generally, how do you rate the instructor in using modern technology for teaching?, presentation of the subject matter, how logical were lecture notes organised and visible in both hard and soft copies?, how relevant was the mode of assessment? (e. g. sufficient tests, assignments, timed essays, practical reports), award of marks corresponding to the marking schemes for assignments/tests/practical reports and how clear was the course outline and objective of the course? Combination of the revised items with the ongoing students' course evaluation and teaching gave rise to the revised tool.

For effective learning and teaching, student-centred approach renders enhanced interactions which end up creating good relationship between instructors and students. Instructors are expected to meet the needs of all learners in the classroom environment regardless of their learning differences, background or gender. In many African cultures some actions connected to sexual harassment are not seen as issues of concern. For example, in some Tanzanian societies kneeling down for a girl/woman before a boy/man is seen as a sign of respect. Also, perpetuation of clearly defined daily responsibilities for women and men has gender inequality connectedness. After going through the ongoing students' course evaluation and teaching tool, it was established that an attribute on sexual harassment was not very clear though it demanded on observance of instructors to the institutional sexual harassment code. It has had been observed by stakeholders that majority of students give credits to observers of sexual harassment and vice versa due to lack of clarity. This contradiction may end up negatively influencing students who do not think critically by perpetuating bad norms to the society. In this project, this item was revised to reflect its actual meaning for reliable evaluation by students. Respect and attendance to different needs of diverse population of students should be practised by course instructors in ensuring quality (ESG, 2015).

In this project, competencies of instructors appeared to be stated in general terms by demanding bringing about students' satisfaction; therefore may not reflect the reality. We are currently operating in modern technological era and therefore the use of modern technology in any field of study cannot be avoided. Competencies of instructors may be looked at into several perspectives, to include instructors and students. A competent instructor needs to have adequate knowledge and skills in a particular field. In teaching and learning, instructors have aspirations to fulfil certain institutional goals. On the other hand, students have expectations from instructions and instructors. It is known that an instructor may have general knowledge and

skills but lacking up – to – date skills in a given field. This is due to the fact that instructions are not static, rather they keep on changing. Furthermore, learning is a lifelong process. In that regard, an instructor who is not equipped with modern technological skills to include software in a particular field may end up failing to transmit modern knowledge and impeding expectations of a nation, institution, students, employers and society. An attribute on competencies of instructors was thus revised in a more specific way as shown in Figure 3 and Table 3. Engagement of learners with different levels of understanding in actual discussions renders student-centred approach of teaching and learning thereby switching from one mode of course delivery to another (ESG, 2015).

It was further observed that non-education students hardly evaluate teaching techniques and styles. The current students' course evaluation and teaching is used by the University of Dar es Salaam and its constituent colleges. The University of Dar es Salaam offers education and non-education programmes. It was noted with concern that education students may easily evaluate different types of teaching techniques and styles. This item was revised by demanding students to evaluate instructors' ability to logically sequence course contents and present them in order of complexities to facilitate learning. The ability of instructors to logically teach contents reflects the levels of lesson preparations. Engagement of students during discussions and/or practical sessions portrays student centred approach.

Demand of information about clarity of course objectives in the current tool was seen inadequate. This is because course outlines indicate a number of items to include the general goals, modules, reference books, scheme of module coverage in weeks of a semester/term, teaching approaches, students' activities, assignments, tests, examinations and expected learning outcomes. It was noted that there is no fixed format for course outlines within the institution. Apart from that, some instructors start to teach before providing students with course outlines. This entails the need to evaluate clarity of course outlines in terms of timing, relevance and sufficiency of information for students. This attribute was revised by requiring students to evaluate clarity of course goals and course outline. Strategic teaching and learning requires consistency between goals and learning outcomes (Antia, 2017). An attribute on course goals is very important as it gives information whether there is a need for curriculum/programme review or not. Clarity of courses is usually reflected in course outlines that are drawn from course contents. Weaknesses observed in course objectives and contents usually form the basis for programme review so as to meet students' and societal needs (ESG, 2015).

The mode of assessment in the current tool was incomplete by demanding sufficiency of tests, assignments and examinations only. To complete this item, relevance of assessments was added to read as, how relevant was the mode of assessment? (e.g. sufficient tests, assignments, timed essays, practical reports). This is because, best performing students tend to give credits to the attribute; on the other hand, students getting unsatisfactory grades ranking it very low. High grades motivate students to an extent of demanding to sit for as many tests/examinations as pos-

sible as opposed to low grades. On the other hand, relevance of assessments entails consideration of intended learning outcomes. If relevance is considered, then actual classroom situation in term of behavioural change may be figured out by majority of the students. According to Antia (2017), course instructors need to ensure that teaching and learning activities match to Bloom's revised taxonomy. Also, relevance of the mode of assessment and expected learning outcomes needs to be given priority when evaluating course assessment methods (ESG, 2015).

Fairness of instructors in grading students was also not clear. The word 'fair' is misused by some students by equating it to one's performance in a particular course. Some students tend to treat fairness of instructors in grading in a subjective way. For example, friendship, ethnicity, popularity, high performance may interfere with fairness of instructors in grading students. Favouritism of some instructors by students may influence information gathered on fairness in grading. It is normal for course instructors to give feedback and discuss model answers after administering assignments/tests/practicals. Class discussions during seminars assist students to evaluate the extent of engagement and fairness in awarding marks for varied tasks. In that regard, students can easily evaluate the extent of instructors to follow the marking guide and so fairness in a direct way. According to ESG (2015), criteria and methods of assessments need to be published in advance and feedback given represents instructor's advice on the intended learning outcomes.

Adequacy of tutorials, seminars or practicals appeared not well formulated. This attribute may be somehow challenging for students' evaluation. Customarily, students like to get free time for carrying out private studies. In this sense, an instructor who for no reasons skips tutorials, seminars or practical sessions may be ranked high by students especially those who are not serious with studies. Furthermore, since students differ in grasping concepts during learning; the response may depict a direct relationship between brightness of students and satisfaction. Therefore, for objectivity, this attribute was revised to demand on how course instructors follow the institutional time table. In that regard, adequacy of tutorials, seminars or practicals can be evaluated well by consideration of workload which needs to be known prior to commencement of the course (ESG, 2015).

For awareness and motivational purposes, the College policy statement was included in the revised students' course evaluation and teaching tool. Students as one of the key stakeholders in any higher learning institutions are obliged to comprehend the quality vision and steps to take so as to reach the destination. Students have roles of changing behaviour through learning, transmitting knowledge and skills to the wider society, fulfilling the national and institutional goals and initiating revision of programmes/curriculum when need arises. Policy statement is needed to develop the quality culture and enabling students as one of stakeholders to take full responsibilities in institutional quality matters (ESG, 2015).

10 Conclusion

Items that were not clear in the students' course evaluation and teaching tool were identified and revised. Ultimately, the revised students' course evaluation and teaching tool was developed. Despite the revision of the tool, its implementation is not yet. This is because the author belongs to a Constituent College of the UDSM and therefore it was agreed during the highest College Academic Committee meeting that the inputs to the ongoing tool will be included in the document under review by the Quality Assurance Bureau of the UDSM.

11 Recommendations

- Visibility of the College QA policy on the website is recommended.
- General regulations governing the conduct of UDSM examinations need to be posted on the College website for the general public.
- Future enrichment of the revised tool by including open – ended questions is recommended so as to get more information from students.
- Inclusion of course objectives in students' course evaluation and teaching tool is recommended to simplify the task of evaluating instruction and programmes.
- Involvement of students in revision of OA policy is recommended in the future.

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Strengthening the Teaching of Practical Science in Open and Distance Learning and Establishing a Sustainable Culture of Applied Research at the Faculty of Sciences of the National Open University of Nigeria

MONIOLUWA OMOLARA OLANIYI

Abstract

The National Open University is the premier single mode Open and Distance Learning (ODL) university in Nigeria and a leading one in terms of student population in Africa. It has about 420,000 students spread across 78 Study Centres in the Federal Republic of Nigeria. The Faculty of Sciences (FOS) is one of eight faculties at the National Open University of Nigeria. The FOS has an average of 75,000 registered students but few full-time academic staff members with high student-staff ratio. This makes administrative workload of academics heavy while international best practices need to be integrated into teaching and learning. Research activity was largely skeletal in the Faculty because of these challenges. My Project Action Plan (PAP) explored avenues to ensure international best practices in teaching and learning of practical science in the Faculty that would give distance learners hands-on practical experience and make them more competitive in the labour market. It also sought to entrench the culture of applied research in both ODL and conventional research among academics. It was expected that these activities would also enhance the visibility of the National Open University of Nigeria in science capacity building and national development through research. To achieve these goals, key tasks and expected milestones were defined for the two categories; teaching and learning, and research. At the end of the project, nine interactive laboratory practical manuals were developed for practical sessions in B.Sc. Biology, B.Sc. Chemistry and B.Sc. Physics programmes. Demonstration videos for the nine manuals were also made. The Faculty Board prepared an integrated proposal that incorporated these materials, hands-on laboratory practical session, and mobile laboratory options with digital approach such as virtual laboratory and simulations as a multimodal package for practical science at the National Open University of Nigeria. This formed the concept which the Faculty presented to the university and the university eventually adapted for the World Bank funded Africa Centre of Excellence (ACE) development impact project, which eventually was among the ten new ACE in Nigeria conditionally nominated by the World Bank. A culture of research was established through research workshop, seminars, research

proposals grantmanship, showcase of research products, increased number of publication by academics in the Faculty and presentation of research results at conferences, institution of Faculty/university publications and strong rewards system defined.

1 Introduction

The National Open University of Nigeria (NOUN) in Perspective

The National Open University (NOU) was established on 22nd July, 1983 by Act No. 6 of the National Assembly of Nigeria in alignment with the 1977 National Policy on Education (NPE), which emphasized unambiguously that the Federal government shall make maximum efforts to enable those who can benefit from higher education to be given access to it. Consequently, NOU was to provide alternative mode of education that would ensure that all Nigerians who desire quality education can readily access it without any barrier while fostering national cohesion.

The NPE explicitly referred to what is now known as Open and Distance Education (ODE), a system that encompasses education for all, for life, life-long learning, life-wide education, adult education, mass education, media-based education, self-learning, part-time studies, etc. It is this policy that forms the bedrock of the National Open University (NOU). However, the university was closed down on 25th April, 1984 by the Federal Military Government that overthrew the civilian government of Alhaji Shehu Shagari.

Many years after the closure, the reasons that informed the earlier establishment of the University still confronted the country (NOUN, 2012). Other reasons that had also emerged included the need to fill the vacuum created by the closure of profit-oriented outreach programmes of many conventional universities in the country; the need for cost effective funding of education; and the need to take advantage of emerging developments in the field of information and communications technology (ICT), which had revolutionised the techniques and methods of instructional deliveries. Consequently, in 2002, the democratic administration of President Olusegun Obasanjo lifted the suspension of National Open University Act No. 6 of 1983. This flagged the restoration of the university, now popularly referred to as the National Open University of Nigeria (NOUN).

UNESCO (2002) describes Open and Distance Learning (ODL) as approaches that focus on opening access to education and training provision, and free learners from the constraints of time and location, thereby offering flexible learning opportunities to individuals and groups of learners. In line with this, the NOUN seeks to be regarded as the foremost university providing highly accessible and enhanced quality education anchored by social justice, equity, equality and national cohesion through a comprehensive reach that transcends all barriers. In order to achieve the vision, the mission statement is to provide functional, cost-effective, flexible learning which adds lifelong value to quality education for all who seek knowledge.

The National Open University of Nigeria has 78 Study Centres spread across Nigeria. There are eight Faculties namely Faculty of Agricultural Sciences, Faculty of Arts, Faculty of Education, Faculty of Health Sciences, Faculty of Law, Faculty of Management Sciences, Faculty of Sciences and Faculty of Social Sciences. In addition, there is a School of Postgraduate Studies (SPGS).

National Open University of Nigeria's Strategic Commitments

National Open University of Nigeria makes use of a multi-modal instructional system, which takes cognizance of the local environment, and consists of a variety of such media and technologies as audio, video, radio, television, computers, VCD, DVD, CD-ROMs, and the Internet (web-based instruction) that the learner is already familiar with or can be made easily available to him/her (NOUN, 2012).

Strategic Aims and Objectives of the National Open University of Nigeria

The strategic aims and objectives of the National Open University of Nigeria as defined by its unpublished Strategic Plan 2013–2017 (NOUN, 2012) include but are not limited to:

- a) Provide high quality learning materials and opportunities using the most appropriate, relevant and cost-effective learning and instructional media and technologies and support services, and continually seek to improve the quality of our courses and services;
- b) Collaborate with institutions and organizations within the West African sub-region for training and development in ODL through the activities of Regional Training and Research Institute for Open and Distance Learning (RETRIDOL); and enhance the growth and development of NOUN and its staff through partnerships with International Development Partners and professional organizations and other open and distance institutions worldwide such as Commonwealth of Learning (COL), the United Nations Educational, Scientific and Cultural Organization (UNESCO), African Council for Distance Education (ACDE), University of South Africa (UNISA), Indira Gandhi National Open University (IGNOU), among others;
- c) Develop materials suitable for international students beginning with West Africa through the African region to the rest of the world in keeping with the trend in cross-border education and the need for NOUN to have an international presence in ODL;
- d) Institute and nurture an ODL research culture at NOUN, engage in purposeful, contemporary research and scholarship that affect daily operations of ODL at NOUN and, disseminate the research results that will launch NOUN as a research oriented open university;
- e) Maintain a financially sound and stable institution through the attraction of funds from government and agencies (external and internal), required to realize all the critical objectives of the University;

- f) Sustain and increase the professional development of staff to meet the needs of an emerging open university to deliver quality education through flexible learning; and
- g) Ensure that learners have value for their investment in all our services as contained in the service delivery charter of NOUN.

To achieve its goal, NOUN promotes collaboration and partnership with both national and international institutions, organizations and agencies globally in order to foster team work, sharing of ideas and resources and develop professionalism. The institution also recognises that well-trained, motivated and committed staff members are our key assets and is therefore committed to their continuous professional development and the provision of necessary welfare and reward to engender loyalty and hard work (NOUN, 2012). My project action plan (PAP) for ensuring the teaching of practical science and perennial research in the Faculty of Sciences leveraged on the selected strategic aims and objectives enumerated above. The PAP is within the strategic goal of the university.

Faculty of Sciences; Identifying Gaps

Currently, NOUN is the only single mode university effectively operating on ODL mode in Nigeria and the West Africa sub-region. Even though there is still high scepticism about the teaching of practical science through the ODL mode, this has not deterred the university from mounting programmes in natural and physical sciences, which often require hands-on laboratory practical training. The implication being that provision needs to be made to ensure that learners acquire the necessary skills that would make them competitive with their counterparts from the conventional university system.

Gap analysis provided by the university-wide strategic document (NOUN, 2012) guided decisions on actions and strategies taken to achieve defined aims and set goals of the project action plan (PAP) reported here. Some of the weaknesses identified included poor work ethics and high workload of academics, inadequate human resources in terms of skills and population size, as well as poor research, and teaching and learning infrastructure for natural and physical sciences at the National Open University of Nigeria. A major opportunity identified is Information and Communication Technology (ICT) to drive the ODL mode.

2 Appraisal of the Current Situation with Teaching of Practical Science and Research at the Faculty of Sciences

Faculty of Sciences has four Departments, namely, Department of Computer Science, Department of Environmental Sciences, Department of Mathematics, and Department of Pure and Applied Sciences all running Bachelor degree programmes with Department of Computer Science additionally running postgraduate Diploma

(PGD) and M.Sc. programmes. Student enrolment in the Faculty of Sciences is about 75,000 and close to 25,000 of these is active on semester basis. This accentuates the challenge of administering practical science in the ODL system. There are 41 full-time academic staff members in the Faculty, a quarter of which are either away on study leave or leave of absence and more than 300 part-time academic staff members who serve as Facilitators spread across the 78 Study Centres of the university. Four of the full-time academic staff members of the Faculty were re-deployed as Centre Directors to some of the Study Centres. This re-deployment is done by University Management across the faculties from time to time as the need arises.

Students largely receive courseware/course materials (Harsha, 2017; Anaekwe & Nnaka, 2017), which they study at their convenience and they have the opportunity of having a reduced period of face-to-face contact with Facilitators at their respective Study Centres. However, there were no manuals for laboratory experiments as it was generally conceived at the establishment of the university that students would take laboratory practical classes at partner institutions with which agreement was signed. However, these universities were few at the inception of NOUN. As science programmes were established and students enrolled into them across the country, it became clear that the existing arrangement was inadequate for professional laboratory based science programmes, more so that the population of students of the Faculty is larger than that of the partner institutions and this was always tasking on their facilities.

Also, a general practice had been that Facilitators (part-time tutors who hold tutorial classes with students at their designated Study Centres) allow students to undertake practical classes in the laboratory facilities of their own primary institutions informally. The implication of this is that it may be done infrequently and would be at the convenience of the Facilitator. Furthermore, activities are not streamlined or standardized across the Study Centres. In some cases, students may not even have the opportunity to take any hands-on science practical. Another option explored by the university is to prepare certain practical course curricular with course materials prepared in a way to provide “alternative to practical” training. In this case, the lack of hands-on practical exposure is partly made-up for by the policy of Student Industrial Work Experience Scheme (SIWES), which learners undertake in the third year of a four year programme. However, SIWES cannot always erase the need for definite laboratory hands-on practical experiments.

Although strategic commitments of NOUN stipulate multi-media and multi-dimensional training facilities, it is preferred that students receive hands-on training in practical science. However realizing that the practicality of this is a tall order because the Study Centres do not have the infrastructure required, it became necessary to clearly define how learners would gain access to hands on practical facilities. Open and distance universities in some developed countries adopt “kitchen science” or its variant in which case learners are able to, with guidelines, carry out some experiments at home, using domestic kitchen facilities for basic non-professional practicals and designed home laboratory kits for professional training (Lyall, and Patti,

2010). Home laboratory kits for first level science training may work well in developed countries. However in developing countries like Nigeria, where funds are limited for many learners to acquire basic home safety gadgets/facilities, adopting “home laboratory” would be a challenge. The most immediate option would be to partner with sister universities with agreement to allow NOUN learners use their existing laboratory facilities.

In order to strengthen pedagogy, it is necessary that we satisfactorily identify need to up skill and new skill requirement of instructors (Mayer and Wilde, 2015). Conferences, seminars and training workshops are panacea for short-term skills acquisition. Partnership with sister institutions and staff exchange would help strengthen skills of academics. It is expected that such relationship with sister ODL institutions, for example, would help strengthen skills of academics at NOUN.

3 Project Action Plan

The Project Action Plan (PAP) was an instrument of the International Deans' Course (IDC), which I employed to intervene in the challenges described above. There were five general objectives of my PAP namely: (1) to ensure that students are adequately exposed to science practical training in the open and distance learning (ODL) system, (2) to strengthen skills of academics in preparing learner-friendly learning materials, (3) to stimulate interest in applied research and allow academics to earn from their products, (4) to encourage research collaboration/partnership internationally and, (5) to enhance the visibility of the National Open University of Nigeria in capacity building and national development through research.

Intended outcomes of the PAP:

Certain expectations are anticipated from my PAP and they are given below:

1. Memoranda of understanding between National Open University of Nigeria and 36 selected universities in Nigeria for laboratory practical,
2. Multimedia materials (CD, online video, etc.) for science practical demonstration and teaching would be developed,
3. MoU with universities in the global north (especially ODL institutions) for access to Virtual laboratory facilities as well as other learning and research facilities,
4. Interactive practical course materials would be developed and collaboration with other ODL institutions on course material development established,
5. Products of science research would be available for showcasing at different fora,
6. Increase in number of publications in high impact factor journals,
7. Increase in number of faculty members presenting their research results in local and international conferences, hence,
8. Patents would be registered and subsequently, increase in number over time,
9. Research and Development Roadmap (Strategic Plan) 2018–2023 would be available for the Faculty,

10. Philanthropists and industries support faculty research drive,
11. Increased mobility of academic staff in the faculty and internationalization,
12. Increased number of grant winning proposals and development-focused applied research
13. Better visibility and enhanced advocacy for NOUN

Potential risks to be taken into account on the project:

Likely threats to the success of the PAP that were taken into account included: (1) University Management position on certain proposals, (2) the challenge of size of the country and coordination of student practical in Open and Distance Learning terrain, (3) possible conflict of interest with some other units in the university responsible for academic planning and research coordination, (4) limited funds for research and execution of PAP, (5) limited time for research due to heavy academic and administrative workload of academic staff, (6) poor motivation of academics for high impact, ground-breaking research due to poor research infrastructure, (7) delay in processes due to bureaucratic bottlenecks.

4 Strategic Actions Taken to Achieve the Set Goals and Ensure Intended Outcomes

Building Awareness for the Project Action Plan

Stakeholders were sensitized on the plan for enhanced teaching of practical science in ODL and the need to develop a culture of applied research at the Faculty of Sciences of the National Open University of Nigeria. The Vice-Chancellor, being the Chief Executive Officer (CEO), was presented with the plan and he pledged support for it. Consequently, at intervals, the plan was presented to the Faculty Management comprising of the Dean, Deputy Dean and Heads of Departments as proposed Faculty activities for discussion before presenting to Faculty Board for consideration. The Board set up committees for the different aspects of the plan at different times and mandated them to draw up action plans and submit for further deliberations at subsequent meetings. It is necessary to note that the project action plan was presented to the Board subtly in a manner that they could identify with it yet they do not see it as the Dean's project that must definitely be achieved. This strengthened the team spirit and made all have a sense of ownership of the project.

The Project Action Plan (PAP) is divided into two major studies; (a) Strengthening the teaching of practical science in Open and Distance Learning (ODL) and (b) Establishing a sustainable culture of applied research. They are so reported under the two sub-themes.

A. Teaching and Learning

1. Explore Opportunities For Partnership With Developed Institutions In The Delivery of Practical Science In ODL And Capacity Building/Training of Academic Staff

Colleagues in the Science, Technology, Engineering and Mathematics (STEM) Faculty at the Open University, UK (OU) initiated contact with me via our website details and we built the relationship mutually. It resulted in an invitation of three academic staff members of NOUN and the Faculty of Sciences to a workshop in the preparation of joint proposal with STEM Faculty. I made presentations on the challenges of practical science training in NOUN at the workshop. I was also invited to deliver another paper in the Open University-Grand Challenge Funds Research (OU-GCFR) workshop on my experience with North-South partnership. My presentation at the GCFR workshop attracted partnership with another professor who had collaboration with University of South Africa (UNISA) and had wanted to explore South-South collaboration of South Africa with Nigeria on their project. Discussion was thus initiated with University of South Africa – Open University (UNISA-OU) network. This also led to a proposed workshop to train academics in the Faculty of Sciences at NOUN in teaching practical science for ODL. Although partnership was secured in principle with STEM faculty of the Open University (OU), an agreement could not be signed at that point. However, report was presented to the Vice-Chancellor upon return to the office and work is ongoing regarding finalizing and implementing the agreement.

2. Plan And Host Training Workshop On Evaluating Learning Design In Blended And Online Courses

Academic staff members of the Faculty of Sciences in NOUN were to be trained in a one-day workshop on evaluating learning design in blended and online courses, facilitated by the UNISA-OU team organized by and administered at the National Open University of Nigeria. However, this was up-scaled by Management to a university wide-affair for the training of Management teams of faculties: Deans, Deputy Deans and HODs, as well as Directors of academic units. This meant that the training ended up being a train the trainer workshop and was expected that the trained would return to train other colleagues in their faculties.

3. Ensuring Hands-On Science Laboratory Practical Exposure For Undergraduate Students

3.1. Science practical scores:

A first step was taken to secure approval of the University Senate to incorporate science practical scores in the final score of learners for each course with practical component. This approval had been secured in December, 2016 before the commencement of the PAP. This done, the drive for practical skill acquisition began because the approval gave it legitimacy.

3.2. Development of Learning Materials (Laboratory manuals and videos):

There had not been any concerted effort to prepare laboratory manuals for science students largely because often times, the students were guided by facilities where the facilitators take them for the laboratory experiments or the few institutions with which NOUN had documented agreement at resuscitation of the university utilized their own laboratory manuals. That implied that the students were exposed to varying experimentations. In order to ensure uniformity and properly define curriculum, the Laboratory Committee was charged with the responsibility of developing learner-friendly science practical manuals for hands-on science practical. So far, laboratory practical manuals have been produced for nine courses spread evenly across B.Sc. Biology, Chemistry and Physics programs. Complementary videos were also produced for each of the nine courses. The videos are undergoing formatting so they could be mass produced on discs and as well uploaded to the Learning Content Management System being developed by the university.

3.3. Partnership with sister universities

The next move was to ensure that student practical sessions were correctly and effectively coordinated across the nation with manuals already available for use. It looked like the most practical thing at that time was to negotiate agreement with other universities within close neighbourhood of some designated Study Centres, particularly major ones located in state capitals. The Laboratory Committee went to work to map out a reasonable strategy that would be effective. Eventually, 36 sister universities were selected spread across the six geopolitical zones of Nigeria; North Central, North East, North West, South East, South-South and South West, to ensure that students undertake hands-on laboratory practical across our Study Centres. Study Centres were grouped within these six regions across the 36 selected sister universities. Academic, Laboratory Technologists and administrative staff members in the Faculty were grouped into six to cover universities within their assigned regions with each team having a complement of the three categories of staff where feasible. Each team was led by a senior academic and the administrative staff in each team served as Secretary to the team to cover proceedings of negotiations in each university visited. Each team visited the universities within their assigned region and presented a consolidated report after the visits. Summary report with cost implication of financing student laboratory practical across the 36 universities was presented to the Vice-Chancellor for university management's decision. Several universities were willing to partner with NOUN but the huge total cost implication was a deterrent to concluding the negotiations and signing the MoUs by NOUN's university Management. Consequently, University Management is exploring other options that would allow limited funds available to be used to develop own facilities, which would be more cost effective. An example is six regional well developed (equipped) laboratories across the country,

3.4. Commencement of science practical sessions in two of phased regional laboratories

Since the signing of the MoUs was delayed, the Laboratory Committee decided to explore the regional laboratory intervention option. A proposal was made for certain additional equipment and consumables to be procured in order to enable laboratory practical hold effectively in our set of laboratories in Lagos and a mobile set arranged for Abuja. However, a six regional laboratory set was proposed. The two regional laboratories out of six were proposed as mid-term intervention by the Faculty of Sciences. The proposal to hold practical sessions in Abuja received approval of the Vice-Chancellor and was subsequently funded. This made it possible for laboratory practical sessions to be held in Lagos and Abuja consecutively between 2017 and 2018. Consequently, two regional laboratories were already defined and functional.

B. Research

In this section, I shall now focus on key tasks that I embarked upon in the drive to establish a sustainable culture of research in the Faculty of Sciences. Please note that the Faculty system was newly created in the university in July 2016 and certain basic faculty structure and function were lacking. It was then necessary to streamline activities and define a clear structure and function within the provision of university policy.

1. Reduce Workload of Academic Staff in Order to Allow More Time for Development-focused Research

In order to ensure that academic staff members have more time for research work, it is necessary to ensure that their heavy administrative workload is reduced. This could be achieved by either recruiting more full-time academic staff or out sourcing to part-time academics. Effort was made to recruit additional academic staff for the Faculty of Sciences within the provision of university management's policy. A total of nine additional academics were appointed for the Faculty but only eight assumed office between November, 2017 and March 2018. Of these, one was on a one year contract, which has lapsed and another tendered his resignation shortly after assumption of duty due to the too heavy work burden in the system compared with the conventional institutions in Nigeria. With university management's approval, certain tasks were out-sourced to resource persons/consultants who are professors in the various science disciplines from sister universities across the federation and on part time appointment with NOUN.

2. Define Research focus for the Faculty and Stimulate Interest in Applied Research among Academics

Research focus was defined for the Faculty and coordinated by the Research and Seminar Committee for the Faculty while a report of the research focus of the Faculty

was submitted to the university's Directorate of Research Administration and Advancement. Research goals were set and strategies for achieving set goals were mapped out; plans for execution and regular monitoring were put in place through the development of a strategic plan (2018–2023) document prepared by a Faculty Strategic Plan Committee set up for the purpose. The Faculty's Strategic Plan 2018–2023 was presented to the Faculty Board, updated afterwards based on observations of the Board. A final copy was delivered by the Committee on the 2nd of February, 2018 and a copy was submitted to the Directorate of Academic Planning of the university.

3. Acquire Research Facilities and Develop Skills of Academic Staff

To ensure perennial research, adequate and standard research facilities and infrastructure need to be provided in the Faculty. Considering the huge financial capital required to set-up a standard functional laboratory, it is clear that University Management may not be able to shoulder the financial burden of setting up extensive laboratories; hence there is the need to explore external sources to support management's efforts. The following activities were proposed to be explored to ensure research facilities were provided and skills of academics for sound research enhanced.

- i. University self-development: This was done progressively by preparing requests for equipment and consumables in phases. This received the approval of the Vice-Chancellor and facilities in the laboratories were populated gradually. Facilities were used for the accreditation of the B.Sc. Biology, B.Sc. Chemistry and B.Sc. Physics programmes and all three programmes received accreditation in different categories; full for B.Sc. Biology and B.Sc. Physics programmes, and interim for B.Sc. Chemistry programme. Approval was also given by the University for the set of laboratories for the natural sciences at the Faculty in Abuja to be appropriately furnished. The contract for the work had been issued by University Management following due process and the contractor had moved in to work to hopefully complete the job by end of November as he estimated.
- ii. Project Funding: University funds short-term research, for example for the exhibition of Federal Ministry of Science and Technology (EXPO' 2018). Based on the recommendations and experience of the Faculty of Sciences at the 2017 EXPO, the university set up a central committee for three proposed faculties' participation, to plan for EXPO' 2018. The proposal of the Faculty of Sciences received approval of the Vice-Chancellor who advised the budget to be reviewed downwards. Consequently approval for funding rolled over to 2019 EXPO. Products from research were developed and research results packaged.
- iii. Philanthropists and endowments: Philanthropists and organizations who could endow facilities were identified. An attempt made with a government organization, Nigerian Meteorological Service (NIMET) succeeded. The Director General (DG) of NIMET promised to endow a Weather Station and the Faculty followed up with the Vice-Chancellor who officially wrote a request in support of this move to the DG who promised to facilitate the provision.

- iv. Postgraduate programmes mounted: This is expected to encourage long term research in the Faculty.
 - a) Department of Computer Science prepared the curriculum for Ph.D. Information Technology programme, presented it for Faculty's Postgraduate Board's consideration. Updated document was submitted to the School of Postgraduate Studies (SPGS) Board's curriculum committee for evaluation and was presented to Senate through the Directorate of Academic Planning on the recommendation of the SPGS. The PhD curriculum for Information Technology received Senate approval in 2017 December.
 - b) Curricula for M.Sc. and Ph.D. programmes in Mathematics department were submitted to Faculty's PG Board for first consideration. The M.Sc. programme curriculum had been updated by the Department and re-considered by Faculty's PG Board, which had recommended it for submission to the Curriculum Committee of the Board of the School of Postgraduate Studies (SPGS). This had since been done and is awaiting SPGS's recommendation to Senate through the Directorate of Academic Planning (DAP).
 - c) Other Departments that have graduated at least two sets of students have been advised by the Faculty's PG Board to commence preparation of M.Sc. and PhD curricula.
- v. A software laboratory was established in the Faculty in Abuja while Lagos Liaison office has got a laboratory space yet to be furnished. A budget for furnishing has been sent to university Management and it is hoped would receive approval soon.

4. Establishing a Culture of Applied Science Research in the Faculty of Sciences

This was done through the following strategic actions:

4.1. Faculty Publications and Research Products

- i. The Faculty Board recommended that Proceedings of the Annual Faculty Seminar be published and this has also received the approval of the Vice-Chancellor
- ii. An annual public lecture would be published when it holds in April, 2019;
- iii. Proceedings of annual Faculty week would also be produced for the Faculty week when it holds in 2019 as very busy university calendar could not accommodate a planned Faculty week in 2018.
- iv. Instead of a Faculty Journal, the University Management approved a harmonized journal jointly produced with Faculties of Agricultural Sciences and Health Sciences. However, the Dean, Faculty of Sciences is serving as pioneer Editor-in-Chief and the Faculty of Sciences as the secretariat.
- v. Ten innovative research products of academic staff members of the Faculty were developed and shall be showcased during the 2019 exhibition of science and technology innovations of the Federal Ministry of Science and Technology (FMS&T) tagged EXPO'2019 in January 2019. The FMS&T organizes an annual

exhibition of science innovation to encourage uptake of research result by the industry and networking among institutions. Higher institutions, research stations, government parastatals and industry are invited to participate in the EXPO. Institutions are also connected with Government agencies that handle intellectual property rights and patent.

- vi. The Faculty's EXPO' organizing committee proposed honoraria to be given the exhibitors from the Faculty in item v above and it is proposed that university would patent the products afterwards.

4.2. Seminars, workshops and conferences, public lectures and faculty week

The Faculty organized monthly seminars with calendar of activities drawn up to ensure that contributions are received from the four Departments at least three times in a year. On 20th March, 2018, the Faculty organized a one-day workshop on academic matters and one on administrative matters on 21st March, 2018 to review academic and administrative processes in the Faculty with a view to re-structure where appropriate in order to increase delivery effectiveness and efficiency. The Faculty also organized a one-day research workshop in 2018. The success of the workshop and its resultant action (presented below) informed the approval of funding by the Vice-Chancellor for the 2019 follow-up research workshop.

The Faculty would commence its annual Public Lecture in 2019 to educate the university community and the public on significance on science training in national, industrial and economic development. A Committee was put in place and is already working to plan a research fare/science week in 2019 during which the Public Lecture would feature.

4.2.1. Research Workshop on Grantsmanship:

The Faculty of Sciences held a one-day workshop on accessing research grants and publishing research results held on Thursday 5th of April, 2018.

The Vice-Chancellor, National Open University of Nigeria, Prof. Abdalla Uba Adamu was the Key Facilitator and he challenged the Faculty with his presentation on "Blending Community Science in the Classroom - Hausa Proverbs and Efficacy of Ethnoscience Methodology". It was a call to deploy cultural tools such as ethno proverbs in the teaching of science, particularly in Open and Distance Learning. This, he opined would enhance popularity and uptake of science, and as well as its comprehension. This was a challenge to the Faculty to develop research proposal that would blend Afrocentric and conventional research that would drive technological advancement and industrial development in the country and in Africa. The crux of the workshop was the hands-on session anchored by the Dean, Prof. Monioluwa O. Olaniyi (i. e. myself) on the preparation of research grant proposals; being guided by features of a grant-winning proposal, using the Nigerian Tertiary Education Trust Fund (TETFUND) research grant proposal document as a study document. Other topics were covered by professors in the different Departments of the Faculty and a software company representative who partnered with the Faculty.

The workshop resolutions were drafted in a communiqué and presented to the workshop participants by the Chairperson of the communiqué committee for review before a final document was submitted to the Dean for onward presentation to the Vice-Chancellor. Certificates of participation were awarded to all participants.

4.2.2. The Faculty Call for Research Teams and Concept

The workshop ended with a challenge to form working teams to prepare competitive group research proposals that could be submitted to funding bodies/agencies. The Coordinator of Research and Seminar Committee then set out to define two groups namely environmental remediation working group and digital learning material development group. She called for follow-up meetings for each team to develop research concepts into full blown research proposals in line with successive discussions on prevailing academic challenges of the Faculty Board. Funds had been approved for a follow-up workshop in February, 2019.

4.2.3. Commemoration of World Environment Day, June 5, 2018 and Research Concept

The Faculty of Sciences commemorated the world environment day on June 5, 2018 with the theme “Beat Plastic Pollution” and held a sensitization campaign workshop on “Plastic Pollution and the need to effectively re-cycle”. The need for remediation of the environment and effective management of wastes was accentuated. The University Management was enthused and pledged support for an affirmative action in this wise. Consequently, the Faculty started developing a concept on management of plastic pollution and remediating the environment.

4.2.4. Africa Centre of Excellence (ACE) for Development Research Phase 3: Call for proposal

Shortly after the Faculty’s research workshop, the university received the call for research proposal for the World Bank assisted Africa Centre of Excellence for Development Impact (ACE Impact) Project. This is a World Bank assisted project for 12 participating West and Central African countries; Benin, Burkina Faso, Cameroon, Cote d’Ivoire, Djibouti, Gambia, Ghana, Guinea, Niger, Nigeria, Senegal, and Togo.

The Faculty of Sciences submitted to the university’s Steering Committee for consideration, the concepts that the Board had deliberated on and agreed to. Apart from the Faculty of Sciences submission, no other Faculty in the university came up with any other concept. Consequently, the Steering Committee agreed to adopt the two concepts of the Faculty of Sciences as submissions from the National Open University of Nigeria (NOUN) in response to the World Bank assisted ACE Impact call for proposal. To suit the terms of reference of the call for proposal, appropriate project topics were then calved out for the two concepts as given below:

1. Africa Centre of Excellence for Technology Enhanced Learning (ACETEL)
2. Africa Centre of Excellence for Environmental Remediation and Management (ACEERAM)

The digital concept aspect of the proposal earlier submitted by the FOS Board to the Vice-Chancellor formed the strength of the proposed ACETEL while the FOS Board's concept of cleaning up plastic pollution and waste management formed the basis of the ACEERAM. These project topics were submitted by NOUN in the first phase of the proposal submission process.

4.2.5. Outcome of Africa Centre of Excellence proposals

One of the proposals for the Africa Centre of Excellence (ACE) for Development Impact, Africa Centre of Excellence for Technology Enhanced Learning (ACETEL), eventually succeeded. It is worthy to note that the ACETEL team developed the proposal in line with the Faculty of Sciences' concept and eventually emerged as one of the 26 new universities in West and Central Africa; 10 from Nigeria, whose proposals were conditionally selected as Centres of excellence by the ACE Impact Ministerial Project Steering Committee at its meeting in Accra, Ghana, on Friday, 2nd November 2018.

The ACEERAM team however reviewed the Faculty's concept from the onset and the project title was first changed from ACEERAM to Africa Centre of Excellence on Environmental Degradation Remediation and Management (ACEEDRAM) and eventually reviewed intensively and extensively the final proposal's concept. The concept of plastic waste management and proposed remediation of its resultant pollution, the backbone of the original idea, were removed from the final proposal. This made their final submission to be a sharp deviation from the Faculty's original concept. This may have been responsible for the ACEEDRAM proposal not succeeding.

Although the project had been escalated to university level and hence out of the hands of the Faculty, the Faculty contributed 46 % of the team members of the two teams combined, from proposal development stage till constitution of members of the Centre's Management Boards. This gave the members of the Faculty Board the opportunity to participate in and acquire hands-on experience in grantsmanship.

4.2.6. Other Research Grant Proposals

Research teams have freely formed now in the faculty and academics are now working together in teams. A team of three has recently submitted a research grant proposal for TETFUND, Nigeria from the Faculty. Three other groups are working to come up with sound research proposals.

5. Institute Reward System

Based on Faculty Board's decision, a Faculty Award Committee was set-up and award categories recommended were constituted. Winners emerged in the following categories:

- i. Academic/Scientist of the Year 2017 (1st, 2nd and 3rd positions)
- ii. Best Academic in Administration of the Year 2017
- iii. Best Administrator of the Year 2017
- iv. Best Junior Administrative Staff of the Year 2017

6. Welfare

The project was to strengthen welfare in the Faculty and create healthy work environment in terms of personnel interaction for effective delivery on the job. These were executed as follows:

- i. End of year get together held for the first time in the Faculty
- ii. Awards winners were announced at the function
- iii. Monetary award was endowed by the Dean for first place winners in all categories
- iv. Letters of award were issued by the Faculty and presented to university Management for recognition: Management commended this effort but could not approve its institution because it was not yet a university-wide arrangement
- v. Other celebrations held to let off heat and make the work environment more appealing: e. g. quick birthday celebrations and send-off of staff whose contract had ended (during lunch breaks), mobilizing colleagues to celebrate with members on their joyous occasions and even sad event, giving signed cards as memorabilia on birthdays, send-off, baby celebrations, etc.

Mid-Term Review of my Project Action Plan and Processes

At mid-term, I booked an appointment with the Vice-Chancellor to present update on my PAP to him and to further solicit his support for the remaining part of the plan. The Vice-Chancellor re-affirmed Management's support for my PAP and the remaining workshops, which were pending, such as workshops on academic matters and research, which had been reported earlier in this paper. The journal (NOUN Journal of Physical and Life Sciences) also received approval to be funded for publishing. The mid-term presentation to the Vice-Chancellor helped secure further support, both goodwill and financial, that ensured successful completion of my PAP and other ancillary achievements, which were initially not part of the original plan but which demanded attention while executing the PAP.

Comparative Assessment of Situation Before and After Executing my Project Action Plan

Comparing the situation before and after the execution of my PAP, the effectiveness of the strategic actions could be verified as summarized below.

Whereas only one academic staff was recruited for a one year Sabbatical leave in 2016, by the end of 2017, nine academics spread across three of the four Departments had been recruited but one of them resigned shortly after assumption of duty. In 2018, Management has compiled vacancies declared by Faculties for another recruitment exercise. However, a senior academic was recently spot recruited by University Management for the Faculty and is expected to assume duty in December, 2018. It is expected that many more academic staff would be recruited in line with Management policy in 2019.

Number of Faculty seminars increased by about 167 % from 2016 to 2017 but in 2018, no seminar had been held up till September due to the busy university calen-

dar, which made creating time for Faculty regular activities challenging. Notwithstanding, three major Faculty workshops were held in 2018 and an additional Departmental workshop compared to only 1 in 2017.

In 2016, there was no record of Faculty publication but in 2017 after commencement of my PAP, a proceeding of Faculty Seminar series was produced and issues of the harmonized journal, the NOUN Journal of Physical and Life Sciences (NJPLS).

Following the Faculty workshop on writing grant-winning research proposals and identifying acceptable outlets for publishing research results, the Faculty presented 2 research concepts, which were adapted by the university. Furthermore, more academic staff members were promoted based on quality and quantity of research output (Table 1), while a large proportion of academics that did not have a PhD degree are now making moves to do so with 20 % already enrolled on their PhD programmes.

Table 1: Promotion of academic personnel into different ranks (based on research publications) between January 2016 and January 2018 across departments in the Faculty of Sciences. (Note that promotion is effective January of every year)

Department	2016 (#)		2017 (#)		2018 (#)	
	Presented	Approved	Presented	Approved	Presented	Approved
Computer Science	1	1	1	0	3	2
Environmental Science	0	0	1	0	2	0
Mathematics	0	0	0	0	2	2
Pure and Applied Sciences	0	0	4	1	4	3
Faculty Total	1	1	6	1	11	7

To strengthen research capacity in the Faculty and build capacity in both professional and ODL applied research, postgraduate programme curricula were encouraged to be developed. As at the time of writing, curriculum for PhD in Information Technology was developed by the department of Computer Science and had been approved by the university Senate. The programme would be mounted soon. Curriculum for MSc. Mathematics was also developed and had been passed by the Faculty's Postgraduate Board. It had since been submitted for consideration by the Curriculum Development Committee of the School of Postgraduate Studies, which if found appropriate, should after consideration make recommendation for it to be presented for Senate approval.

Before commencement of my PAP, there was no laboratory manual for the conduct of laboratory practicals. However since commencement of my PAP till the time of writing, a total of nine laboratory manuals had been developed for practical laboratory based courses in B.Sc. Biology, B.Sc. Chemistry and B.Sc. Physics programmes. Additionally, six videos had been produced complementary to the practical manuals.

Challenges Associated with the Execution of my PAP

Some parts of my PAP were adopted by the university. They were not always a success story though. Once a project becomes too large, management becomes a challenge, and that was experienced in the course of executing my PAP. The section below enumerates steps in the process of up-scaling plans, highlighting successes and failures.

Some unforeseen circumstances threatened the execution of my PAP, often times leading to extended duration of the exercise (Figure 1). The university calendar was reviewed a couple of times with the introduction of new central university activities and re-run of examinations, which were centrally coordinated, due to compromise of examination process which had to be curbed, and that affected certain work plans. These ate into the time for monthly Faculty Seminars for instance, thus the monthly seminar series was destabilized in 2018. However, it is hoped that by 2019 when the university calendar would have been better streamlined, more time would be available. In some cases, key tasks were taken over by the university and hence escalated to university projects, rather than Faculty business (Figure 2). In such a case, executing the action plan became more challenging because of the resulting larger size and the need to interact with other units of the university in planning the event. Two of the key tasks fell within this category but they ended up being highly successful. At other times, the key task just fizzled out and became comatose or compromised and mixed-up. In such situations, the Dean as a middle manager became sandwiched between opinions of top University Management and Faculty staff; hence the need to understand the politics of staying safe and sane sandwiched between the two sides of the divide.

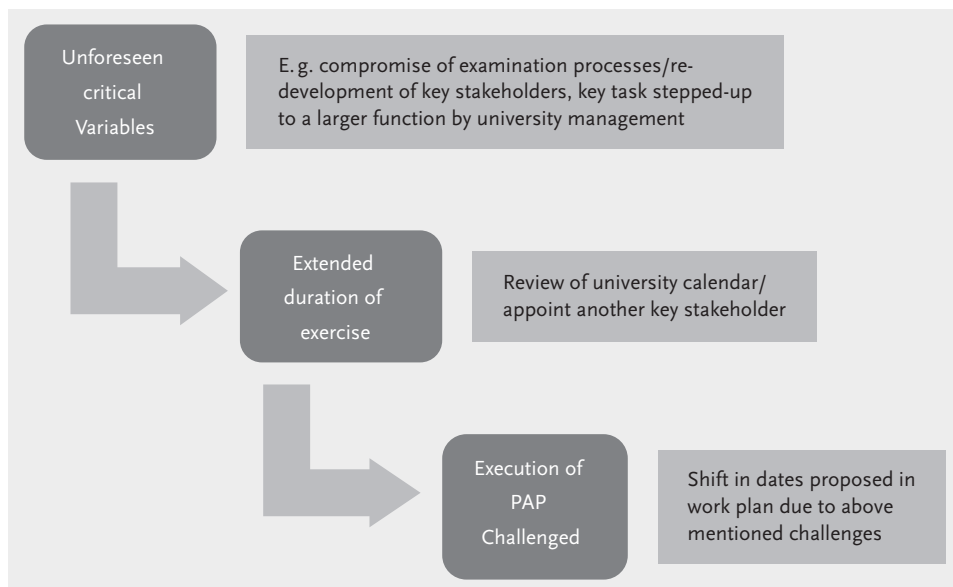


Figure 1: Some factors that challenged the execution of my project action plan (PAP)

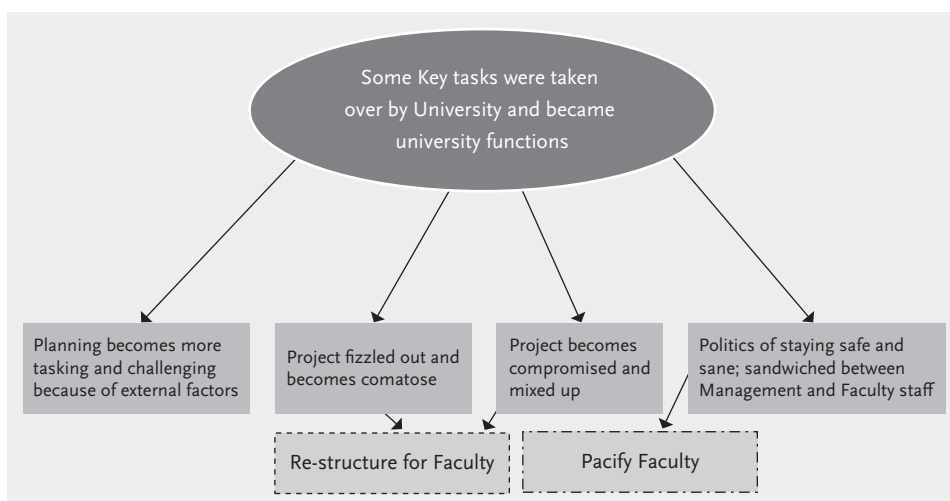


Figure 2: Difficulties encountered when key tasks were escalated outside the original plan

Discussion

Practical Science Training in ODL and Associated Challenges: Observations from my PAP

The training workshop on evaluating learning design in blended and online courses which was held in partnership with the University of South Africa and Open University, UK was a skills acquisition programme. Two in-house workshops on academic matters held were also to impact training and were quite useful in improving quality of pedagogy delivery in the Faculty. This workshop was escalated to university activity and as such only the Deans, Deputy Deans and Heads of Department of the Faculty of Sciences as with other faculties attended the training workshop. There is a need for a multiplication approach where the Faculty would then train its own members in order to help guide development of more interactive study materials for science courses. The Faculty has received budget approval to host its own in-house workshop in January 2019 to transfer the knowledge to other academic members of staff.

Partnership with sister universities becomes a challenge since the number of students in the ODL system is often larger than in the conventional universities and in some cases, the universities placed a limit on the number of students they could accommodate from NOUN. The large population size of NOUN students would place a heavy demand on the laboratory facilities of the partner institutions coupled with the need to up the skills of many laboratory personnel in these universities. Damages were often projected and estimated cost integrated into the agreement with sister universities. Having agreement with 36 universities as attempted in this project made the financial implication to be huge. Hence, we had to look inwards to provide education to our learners in line with the Act that set up the National Open

University of Nigeria; i. e. to ensure access with cost-effectiveness without compromising quality. If Memorandum of Understanding (MoU) is short lived, NOUN would require its own regional laboratory facilities to run practical science at regional level. Consequently, attempt was made to develop regional laboratories and two pilot locations were tested: Lagos and Abuja. Mobile laboratories across the six geopolitical zones of Nigeria are also being proposed. The Laboratory Practical Committee of the Faculty of Sciences therefore developed practical manuals to help streamline the practical training across the Study Centres. So far, manuals have been developed for nine courses in Biology, Chemistry and Physics Bachelor's programmes.

Additionally, videos of laboratory sessions were produced. The Faculty has recently submitted its request to the university Management for a multimedia approach that would combine hands-on, audio, video (on disks and online on our website) facilities with real-time online streaming of practical sessions that would be interactive, and virtual laboratories and simulations. The first set of videos which had already been prepared for B.Sc. Physics, B.Sc. Chemistry and B.Sc. Biology programmes are being formatted for mass production for students and also subsequent upload unto university's Learning Content Management System for online access by students.

Technology has helped to complement and enhance pedagogy in Open and Distance Learning (ODL). The deployment of technology in options like virtual laboratory, remote laboratory experiments and dry laboratory is helping to resolve some of the challenges associated with administering practical science in ODL. However, the peculiarity of the target audience, stakeholders or end-users of ODL in Nigeria where for instance, e-learning is slowly gaining ground, demands that acceptable mode of training be adopted. Furthermore, the National Universities Commission (NUC), the regulator of university education in Nigeria presently encourages blended learning mode for open and distance education in Nigeria. Consequently, a blend of hands-on and virtual options is advocated in the practical teaching of science. It is expected that the deployment of Information and Communication Technology (ICT) tools in teaching practical science would not only be effective (Oludeyi *et al.*, 2015) but would also solve some of the concerns of ODL including access to quality higher education for the large number of students enrolled under ODL (Moges, 2014). Consequently, a re-packaged proposal had been presented to University Management for digital intervention to include virtual laboratory and digital laboratory simulations as an integrated approach to enhance learning of science in our ODL system.

Effectiveness of my PAP on Research activities at the Faculty of Sciences and the University in General

To ensure that academics have appropriate infrastructure for impactful research, University Management approved the proposal for the completion and equipping of the laboratories in the Faculty in Abuja. The contractor had commenced work and promised to be done by November, 2018. A fully equipped software laboratory was also put in place at the Faculty for the Computer Science, Physics and Mathematics

programmes largely but also to strengthen the skills of academics in research data processing and summarization, big data management and software development. It is hoped that when other laboratories are ready, they would double for demonstration and practical classes that would be transmitted across the Study Centres using digital tools.

Often times, access to information in ODL to help build capacity in research is scarce and there is often the need to record processes. Hence floating an academic peer review journal is a means of exposing academics to the process and appreciating the academic culture of publishing research findings in peer review journals. Even though my PAP intended to create a Faculty journal, the plan came at a time when the university was moving to meet conditions to subscribe to funding by Nigeria's Tertiary Education Trust Fund (TETFUND). As a result, all science-based faculties were advised to collaborate to float a multidisciplinary journal. The faculties of Agricultural Sciences, Health Sciences and Sciences of NOUN worked together to come up with the NOUN Journal of Physical and Life Sciences (NOUN-JPLS) and agreed that the Dean, Faculty of Sciences should serve as pioneer Editor-in-Chief (E-I-C). Each Faculty nominated two subject Editors comprising the Dean and a senior faculty member.

The Editorial Board of the journal comprised internal (Subject Editors) and external (Editorial Advisers) members. The E-I-C was saddled with the responsibility of inviting credible scientists across regional and global divide and the contact I made with colleagues at IDC 2017/2018 became very useful and relevant. Leveraging on the interactions with colleagues at IDC 2017/2018 contact sessions and submissions of other Deans of partnering faculties, the Editorial Board of NOUN-JPLS was established with an international outlook and desired quality. The journal intended to produce two issues annually in June and December. At the time of writing this report, Volume 1, Issue 1, 2017 of the journal has been produced while Volume 2, Issue 1 is being concluded for 2018. Manuscripts for Volume 2, Issue 2, 2018 and Volume 3, Issue 1, 2019 are receiving Reviewers' attention. NOUN Journal of Physical and Life Sciences (NJPLS) is the first harmonized journal series of the university and is formally registered with the national Library with ISSN. It can be accessed at its launched website www.njpls.nou.edu.ng.

With increased awareness about research and outlet for publishing, more academics in the Faculty are imbibing the academic culture of publishing and international best practice in research and academic activities. There was 44% increased performance as reflected in the number of academic staff members promoted in January 2018 compared to January 2017. Consideration of academics for promotion is largely by their research output based on amount and quality of their publications.

Following the series of meetings engaged with the academic staff members in development category cadres, they are now increasingly making moves to acquire PhD degrees. This implied that this category of academic staff is becoming more aware of the need for career development and research. This would further strengthen research outputs of academics in the Faculty and as well develop capacity.

Increasing the capacity of academics in the Faculty of Sciences to engage in development-oriented research spurred the urge to increase academic staff strength. Unfortunately university Management policy occasioned by reduced government's budgetary allocation for overhead implied that enough permanent academic personnel could not be engaged. The Faculty, therefore, looked into engaging Facilitators, who are part-time employees, in more Faculty tasks. This further ensured availability of quality time for research. A research workshop was held and the fall-out was constitution of two research teams for the Faculty who harmonized areas of competence and defined two areas of focus to develop multi- and inter-disciplinary research proposals.

The effectiveness of the research workshop and the resultant break-out teams was demonstrated when about 46 % of academic staff members from the Faculty of Sciences were involved in the preparation of two proposals that the National Open University of Nigeria submitted for the Africa Centre of Excellence project Phase 3 to be funded by the World Bank. This was a first time experience for NOUN. The concept of the two proposals developed and submitted by university originated from the Faculty of Sciences. Related faculties also participated in the development of the multi-disciplinary proposals. Considering that there are 8 Faculties in the university, the role of the Faculty of Sciences at setting the pace and our efforts are beginning to project the university's relevance in national and regional development is already clearly defined.

Even though academics were not able to patent any product yet, those who were part of the ACE proposal writing were able to receive university financial reward for the preparation of ACE research proposal. The university also funded their stay in hotel for the period in which the proposals were written in conference. Although patent had not emerged, it is largely because time is required to get research done with resultant products that could be patented. Since research fire has been ignited now in the faculty, it is only a matter of time. Additionally, the Research Administration and Advancement Directorate of the university is developing research policy, ethics and IPR for the university.

Reward system initiated yielded good result. It was observed that some academic staff members became more relaxed, friendly and less touchy after realizing that other members of staff of the Faculty could actually determine the recognition given them. This resulted in improved interpersonal relationships and more friendly work environment. The welfare package has also contributed to reducing tension in the Faculty as there was regularly time to cool off the heat and socialize.

Acknowledgement

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I sincerely appreciate the organizers of the International Deans' Course; German Academic Exchange Service (DAAD), the German Rectors' Conference (HRK), the Osnabrück University of Applied Sciences in cooperation with the Alexander von Humboldt Foundation (AvH) and other partners, for the opportunity to be one of the participants and beneficiaries of scholarship for IDC 2017/2018. I thank Prof. Bassey Antia who was the promoter that guided my PAP. Colleagues at IDC 2017/2018 are most warmly acknowledged; it was a good experience meeting and working with them.

My gratitude also goes to the Almighty God for granting me grace to accomplish my PAP successfully.

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Empowerment Management in Higher Education: A Case Study from the Philippines

DIGNA MAC PANER-ALBA

Abstract

Reorganization in higher education institutions in the Philippines became inevitable when the whole Philippine education system shifted from having 10 years to 12 years of basic education starting in year 2015, henceforth pushing higher education to do a comprehensive evaluation of its programs or curricular offerings to match with the competencies called for by higher education in the country.. These changes led academic units to review their respective mission, vision, and goals so as to empower departmental heads (or chairpersons) to in turn strengthen their respective unit. The Empowerment –Management-Equalizer Workshop in one private university in the Philippines assessed departmental chairpersons' understanding of their functions and responsibilities as academic and administrative leaders and managers. After participating in this workshop, the departmental chairpersons answered the researcher-designed empowerment-management-equalizer (EME) assessment tool enabling the participants to gauge their capability to distinguish between tasks and responsibilities through matching job description with their coordinative, executive, and recommendatory functions. This workshop has four parts, mainly university governance, leadership, communication, and conflict management. The EME Assessment Tool answered in the last phase of the workshop, on the other hand was an adaptation of the Thomas-Kilmann Conflict Style Instrument (2015). This study outlines the workshop phases which effected a cohesive understanding of the role of people in higher education and higher education's aim towards empowerment management and leadership.

1 Introduction

Academic departments in higher educational institutions (HEIs) in the Philippines are multifaceted and adopt an inter/multi-disciplinary systems approach to instruction, research, and social involvement. Academic and operational unit heads at all levels of the HEIs need to understand and know the balance between their two jobs: as a manager and as a teacher.

With the bold changes in higher education, as a result, operational unit managers are not confined to doing just specific tasks; they need to be empowered to respond to interdisciplinary and multidisciplinary concerns, and to do so not only by

looking at the local scenario but also by keeping global perspectives in view. In 2015, the Philippines started the implementation of the K to 12 System (Republic Act 10533, The Enhanced Basic Education Act of 2013) wherein, instead of finishing basic education in 10 years (six years of primary education [Grade 1 to Grade 6] and four years of secondary or high school education [Grade 7 to Grade 10]), the mandatory kindergarten (K) level and two years in secondary education (Grade 10 to Grade 12), termed as Senior High School (SHS) were added to the basic education curriculum, resulting to a dearth in enrolment in higher education in 2015. As managers, the department chairpersons had to take a closer look on how their course offerings would meet the demands of incoming college students by 2017 and also ensure the faculty's readiness in handling the new and revised courses. College curricular programs were revisited, revised and revitalized to be at pace with the K to 12 System. All the revised curricular programs had to be reviewed and approved by the Commission on Higher Education (CHED) of the Philippines.

The unique features of the additional two-year levels in secondary education in the K to 12 System posted a real challenge in designing tertiary curricular programs in the country. At the start of SHS (Grade 11), the student had to choose from the three SHS tracks, namely: 1. Academic Track; 2. Technical-Vocational-Livelihood (TVL) Track; and 3. Sports and Arts Track. The academic track is chosen by students who would pursue college education; the TVL track is chosen by students who are interested in job-ready skills and issuance of certificates of competency and national certifications on specific skill-sets; the Sports and Arts Track are for students who would venture in athletics, fitness and recreational industries, and in visual design and performing arts, respectively. Higher education institutions focused on strategically designing academic programs that would have to be offered by 2017. These programs should be aligned with the strands under the academic track, namely: 1. Accountancy, Business, and Management (ABM); 2. Humanities and Social Sciences (HUMSS); 3. General Academics (GA); and 4. Science, Technology, Engineering, and Mathematics (STEM). For HEIs and department heads, choosing and enrolling in these strands in SHS became determinants of the courses the SHS graduate would take in college and the number of students who would be attracted to take the new/revised course programs which has to be aligned/matched with the SHS academic strand. Faculty loading that is also managed by the department head is very much dependent on the college courses chosen by the SHS graduate.

This legislation of RA 10 533 compelled higher education institutions (HEIs) to do a comprehensive evaluation of their programs to match with the 21st century competencies and skills (P21 Framework, 2007) required in the Philippine higher education curriculum. In the case of the Ateneo de Naga University (ADNU), Philippines, the presence of SHS academic strands effected to a reorganization in the colleges to realign course offerings in higher education with the K to 12 System's academic strands. ADNU reorganized two out of its six colleges, mainly the College of Arts and Sciences (CAS) to the College of Humanities and Social Sciences (CHSS) and the College of Engineering (CE) to the College of Science and Engineering (CSE).

The CAS housed eight departments and one center, namely, the Departments of Literature and Language Studies, Mathematics, Media Studies, Natural Sciences, Philosophy, Psychology, Social Sciences, Theology, and the College Reading Center (CRC). In 2015, two of its departments (Mathematics and Natural Sciences) were transferred to the CE to group all the humanities and social science-related curricula and science and engineering related courses under the CHSS and CSE, respectively. The university's expectation on the department heads being pro-active in revising the curricular offerings simultaneous with manning their respective departments was high; the reorganization and process of transferring the two departments, however, happened too fast and spawned confusion among the unit heads and faculty alike.

Faced with the challenge of shaping a new, albeit re-organized college, the CHSS dean spearheaded the review of the college's mission, vision, and goals with the six department chairpersons giving inputs enabling harmony within and between the departments and henceforth strengthening its multi-faceted set-up.

2 The IDC-PAP: Empowerment-Management-Equalizer of Department Chairpersons

A brief look at the Project Action Plan (PAP). The concept of the project action plan [PAP] was introduced during Phase I of the International Deans' Course South-East Asia 2016/17. The thematic areas in the IDC where the PAP would be linked are the following: financial management, strategic management, research management, curriculum design, quality assurance. This three-phase course is designed for its participants to "work on an individual reform project which will be implemented in between the contact phases at the participants' home universities." Upon return to the home university, the PAP would be fully designed and implemented with the guidance of an IDC-DAAD mentor/trainer. In the interim workshop (Part II) held in the Philippines last October 23–27, 2016, the PAP was presented and the learning progress of each course participant was shared and feedback were given by peers and trainers. In the final conference (Part III) held in Yogyakarta, Indonesia on February 5–10, 2017.

Shaping the Empowerment-Management-Equalizer (EME). This IDC-PAP zeroed-in on strategic management and planning and quality assurance of jobs specifically of the mid-level administrators, in this case faculty members who become department chairpersons and center directors. . The proponent realized that introducing strategic management and planning in higher education to newly appointed mid-level administrators may be seen as an encumbrance, as such there would be hesitation in understanding the roles and functions which the new job requires, albeit, accepting the responsibilities and the new job. They have been and are still more adept and focused on teaching, doing research, and extension (social involvement) work.

In school-year 2015–2016, the College of Humanities and Social Sciences (CHSS) has a dean and seven departments/center under it – Literature and Language Studies, Media Studies, Philosophy, Psychology, Social Sciences, Theology, and the College Reading Center. With this, The CHSS which shows a multifaceted set-up and inter/multi-disciplinary systems approach in understanding approaches to instruction, research, and social involvement.

As Dean of the CHSS, the proponent is expected to:

- a) “lead in the program design and implementation of projects that will embolden instruction, research, and social involvement bearing in mind the support to the University Mission, Vision, and Goals;
- b) “encourage the faculty and have faculty development programs to guide them in their career paths;
- c) “to support student programs for the development and growth of the students and hone them to become men and women for others and prepare them to succeed in their chosen career and field of specialization; and
- d) “to have means and ways for the faculty and the College to be able to conduct and publish researches in both local, national, and international arenas” (Job Description of the Dean of the College of Arts and Sciences, n. d.)

Over and above all these is the need to understand the interdisciplinary and multi-disciplinary approaches and systems where all areas and disciplines under the Humanities and Social Sciences may be glued and work together as a system. Taking into consideration too the university’s CorPlan2020, mid-level administrators need to understand and know the balance between being managers and faculty/professors themselves. Corporate Planning 2020 (CorPlan2020) “is a product of a long process of reflective interaction and collaboration among the different offices and units of seeking the best way to realize the University Mission and Vision” (Fabay, 2013). As such, CorPlan2020 is the blueprint which presents how the university can reach its objective through consolidated and synthesized goals and strategic tasks, guided by its six key result areas encompassing the university’s four-fold functions: instruction, research, social involvement, and formation (as stipulated in the University Mission (2013), forming students to become ‘men and women for others’ through a balanced academic, research, and community service, “responding to Christ’s call to serve first God’s Kingdom – *Primum Regnum Dei*.”)

This blueprint serves as the template for all the colleges and units to follow to reach success and achieve its milestones. However, with the changes in the country’s educational system - the additional two years in basic education (Philippine K to 12 System) and revisions in the higher education curriculum (CHED Memorandum Order No.20 series of 2013: The New General Education Curriculum), the University had to adapt to these changes; academic departments especially, need to recalibrate and/or re-assess identified plans and programs already included in the corporate plan. The department chairpersons and center directors need not be confined to doing just specific tasks as well; they need to be empowered and trained in handling

interdisciplinary and multidisciplinary activities or concerns, by not just considering or looking at the local scenario but looking at it holistically, with international and global perspectives.

The proponent realized that through the designed IDC-PAP: Workshop on Empowerment-Management Equalizer (EME) of Department Chairpersons, the latter would learn and apply strategic management and planning in recalibrating, re-assessing identified programs and projects they have indicated in CorPlan2020, have balance and be empowered in performing their duties and have quality assurance of jobs and deliverables. The Workshop on EME was held on September 1–2, 2016 at the Ateneo de Naga University.

It is hoped that this module may be incorporated in the university's Leadership Development and Succession Program as it intends to educate and empower its current and future administrators on managing change and strategic management.

Incorporated in the workshop was evaluating and matching the unit heads' job descriptions with their actual tasks and responsibilities, and how they balance their over-all work load. The College's main concern was strengthening its foundation and support system provided to its departments/units, and empowering the department chairpersons in becoming managers and at the same time teachers in the university where they also have to fulfil the four-fold function of instruction, research, social involvement, and Ignatian formation. A first step to this was the design of a two-day Workshop on Empowerment-Management Equalizer of Department Chairpersons. Second was adapting the Thomas-Kilmann Conflict Mode Instrument (2002, 2010)) to come up with the researcher-designed Empowerment-Management Equalizer (EME) Assessment Tool.

Workshop Outputs

The two-day Workshop on Empowerment-Management Equalizer of Department Chairpersons was designed to share with the workshop participants selected inputs from the International Deans' Course South-East Asia 2016–2017. The workshop has two interfaces; it started off with the background of the DIES-IDC Southeast Asia 2016/2017 Phase 1 with the following topics: University Governance, Leadership and Communication, Soft-Skills or the Skill-Will Matrix, and Conflict Management. The second part of the workshop was answering two assessment tools/checklists – the Thomas – Kilman Conflict Mode Instrument (TKI) and the proponent-designed Empowerment-Management Equalizer (EME) Assessment Checklist for the Department Chairpersons with the items lifted from the mid-level administrator's job description as it adapted the Thomas-Kilmann Conflict Mode Instrument (2002, 2010). These helped both the dean of the College of Humanities and Social Sciences (the proponent) and the mid-level administrators (six department chairpersons and one center director) appreciate the leadership role given them – a role that may have been hesitantly or willingly accepted or not.

Conflict Management. "The Thomas-Kilmann Conflict Mode Instrument (TKI) assesses an individual's behavior in conflict situations—that is, situations in which

the concerns of two people appear to be incompatible. In conflict situations, we can describe a person's behavior along two basic dimensions: (1) **assertiveness**, the extent to which the individual attempts to satisfy his or her own concerns, and (2) **cooperativeness**, the extent to which the individual attempts to satisfy the other person's concerns. These two dimensions of behavior can be used to define five methods of dealing with conflict." According to Thomas (1994), the five methods are Competing, Collaborating, Compromising, Avoiding, and Accommodating. The instrument was answered after the workshop sessions on soft-skills and conflict management.

The mid-level administrators found it interesting that their style in handling conflicts fall under the given methods. According to TKI Interpretation (J. Trainer, 2010), "In the case of conflict-handling behavior, there are no right or wrong answers. All five modes are useful in some situations: each represents a set of useful social skills. Our conventional wisdom recognizes, for example, that often "Two heads are better than one" (collaborating). But it also says, "Kill your enemies with kindness" (accommodating), "Split the difference" (compromising). "Leave well enough alone" (avoiding), and "Might makes right" (competing). The effectiveness of a given conflict-handling mode depends on the requirements of the specific situation and the skill with which you use that mode."

High among the conflict mode is **compromising** and **accommodating**, low in **competing**, and average on **collaborating** and **avoiding** (Table 1). Four of the administrators are high in compromising and accommodating. Chairmanship is not a full-time position and only has an equivalent number of credit units. As such, the department chairpersons are faced with dealing and balancing administrative functions and handling college classes. There are instances when faculty members who are much older, in age and/or years of service in the university, would insist on doing what have been long practiced and not welcoming changes or adjustments (i.e., teaching methodologies, doing research, designing and implementing syllabi, attendance checking, etc.). The implied seniority of the faculty members, more often than not, presents a hindrance in decision-making, resulting in a compromise or accommodation. More often than not the chairpersons do not enter into discussions or disagreements with faculty members; seldom do they compete (Low) with their faculty showing that the mid-level administrators do not compete with, but rather prioritize the need and welfare of the faculty and their department (collaborating, compromising, and accommodating).

Table 1: Mid-Level Administrators' Response to the Thomas-Kilmann Conflict Mode Instrument

Usage	Competing	Collaborating	Compromising	Avoiding	Accommodating
HIGH		2	4	2	4
AVERAGE	2	3	2	4	3
LOW	5	2	1	1	

Empowerment Management Equalizer. Incorporated in the workshop was evaluating and matching the unit heads' job descriptions with their actual tasks and responsibilities, and how they balance their over-all work load. The College's main concern was strengthening its foundation and support system provided to its departments/units, and empowering the department chairpersons in becoming managers and at the same time teachers in the university where they also have to fulfil the four-fold function of instruction, research, social involvement, and Ignatian formation.

Every position in an organization has a job description (JD). In the University, when a faculty gets the position as unit head (department chairperson), she is expected to be oriented of his job by the former unit head; understanding and "getting-in-on-the-job" becomes experiential (learning-by-doing). The new department chairperson does not immediately go through the job description (tasks and responsibilities) provided by the human resource office. These 47 tasks and responsibilities were laid in the Empowerment-Management Equalizer Checklist where the department chairpersons would be able to name which among the varied functions they acknowledge, identify, and perform. Following the format of the Thomas-Kilmann Conflict Mode Instrument (2002, 2010), the proponent re-arranged the order of the job descriptions from the original personnel file; a sample of these re-arranged job descriptions are hereby presented, along with the functions they need to identify (Table 2). The seven mid-level administrators (6 department chairpersons and one center director) would have to discern under which of the four general functions it falls – Coordinating Function (CF), Executive Functions (EF), Recommendatory Functions (RF), and Other/Additional functions (OF).

Table 2: Sample Items and Identified Functions in the Empowerment Management Equalizer Checklist

No.	Specific Job Description (Tasks and Responsibilities)	Function*			
1	Actively participate in the recruitment, screening, selection and recommendation to the Dean, of new faculty members.	CF	EF	RF	OF
2	Acts as mediator in any conflict between students and teachers, and between teachers in the department	CF	EF	RF	OF
4	Coordinates with the Center for Community Development and Office of Mission and Identity regarding formation and outreach activities of teachers and students; and	CF	EF	RF	OF
13	Establishes takes direct responsibility for the maintenance, upkeep, and or upgrading of facilities and equipment in his/her office.	CF	EF	RF	OF

Function: CF – coordinating function RF – recommendatory function EF – executive function
OF – other/additional function

Presented in the JD are the 47 tasks and responsibilities specified under four main functions – coordinating (CF, 16 items), executive (EF, 16 items), recommendatory (RF, 10 items), and additional functions (OF, 5 items) – those deliverables needed from time to time. In the process of reading and revisiting the JD, the department chairpersons would shade the column provided for the CF, EF, RF, OF (Table 2).

The proponent also prepared a frequency table to determine the mid-level administrators' awareness and understanding of said general functions (Table 3). The last phase of the Workshop on Empowerment Management Equalizer of Department Chairpersons was the classification of these tasks and responsibilities according to the four main functions which the department chairpersons are bound to perform. The levels of **high**, **average**, and **low** were determined based on the frequency of matching the individual task and responsibility with the four main functions – **CF**, **EF**, **RF**, **OF**. The proponent did the counting, together with the workshop-participants (department chairpersons center director). The higher (or lower) the frequency of correct matches between tasks and responsibilities with functions, the more balanced (imbalanced) and empowered (weak) the department chairpersons are in meeting expectations and performing their tasks and responsibilities, both as mid-level administrators and faculty. Simultaneous with it, everyone identified and shared experiences and aired clarifications about the said functions, then realized that there were some overlaps between executive and recommendatory functions.

Table 3: Frequency Table of the Distribution of the General Functions based on the Department Chairpersons' Awareness and Understanding of the Job Description (Tasks and Responsibilities)

Level	CF	EF	RF	OF
High	11 to 16	11 to 16	6 to 10	4 to 5
Average	6 to 10	6 to 10	4 to 6	2 to 3
Low	1 to 5	1 to 5	1 to 3	1 to 2

In summary (Table 4), only one was high in the **coordinating functions** and two in the **executive functions**. These chairpersons have had more experience in being mid-level administrators as compared to the others due to the fact that they have had more years of being chairpersons. Low in the **recommendatory functions** are the "most recent" in the job and the functions are quite overwhelmingly "just sinking in," resulting to mixed emotions and thinking of how to juggle their time from one function to another (imbalance). Majority of the chairpersons are on the average in the **coordinating**, **executive**, and **recommendatory** functions.

Table 4: Summary of the Department Chairpersons' Response to the Empowerment Management Equalizer Checklist

	CF	EF	RF	OF
High	1	2		
Average	5	5	5	1
Low	1		2	4

Some of these tasks and responsibilities that are faced by the department chairpersons frequently are the following:

1. Acting as mediator in conflict situations between students, parents, faculty, and departments.
2. Establishing linkages/tie-ups with the industries.
3. Designing and proposing new and revised course offerings to be served by the department; preparing faculty loading, scheduling of classes, and use of facilities/laboratories
4. Through channels, reorganizing / restructuring of the departments in response to the needs of the time and for the departments' more efficient functioning.
5. Supervising the faculty resulting to effective classroom instruction and management, efficient performance in teaching and teaching-related functions (i. e., student consultation, classroom and peer observations; preparing term examinations, doing research and community service, etc).

The above items, along with the 42 other tasks and responsibilities eat much of the time of the mid-level administrators. They need to be able to balance delivering these with their teaching load assignments. Over and above all these, the department chairpersons thrived to understand the interdisciplinary and multidisciplinary approaches and systems woven in their positions where all areas and disciplines under the Humanities and Social Sciences are glued to work together as a system.

After knowing the result of their responses, of where their strong and weak points are, the proponent asked for feedback on the 2-half day workshop. The department chairpersons appreciated the design of the workshop and the importance given to sharing the inputs from the DIES-DAAD International Deans' Course Southeast Asia 2016–2017.

For a successful and fulfilling strategic management and planning, the department chairpersons and their successors always “just learn by doing” (learning through experience). There is also the realization that academic leaders, when it is time to relinquish their jobs, have to responsibility to properly turn-over the tasks to their successors. To be empowered, higher education institutions not only in the region or province, but in the country should be able to provide more enhancements or skills development for faculty members who are faced with the challenge of being middle administrators, balancing office work and teaching. Academic heads would have to be well equipped with conflict management and soft-skills to be able to handle a wide array of clientele – colleagues, co-faculty, non-academic staff, students, and parents. Philippine HEIs should have strong support coming from its human resource offices.

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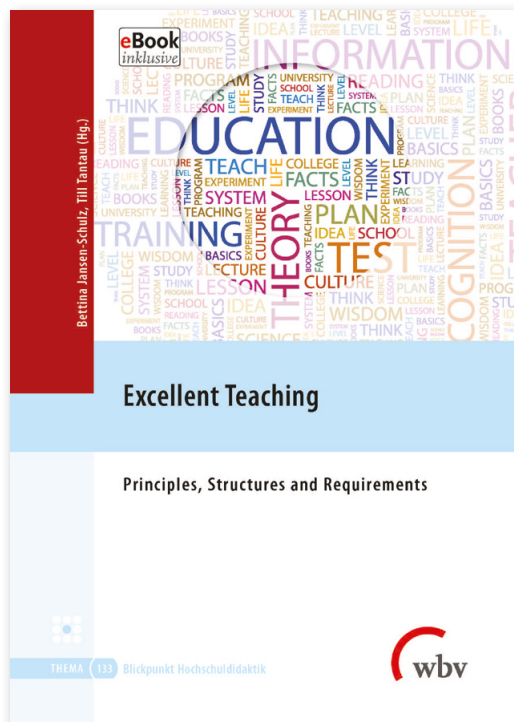
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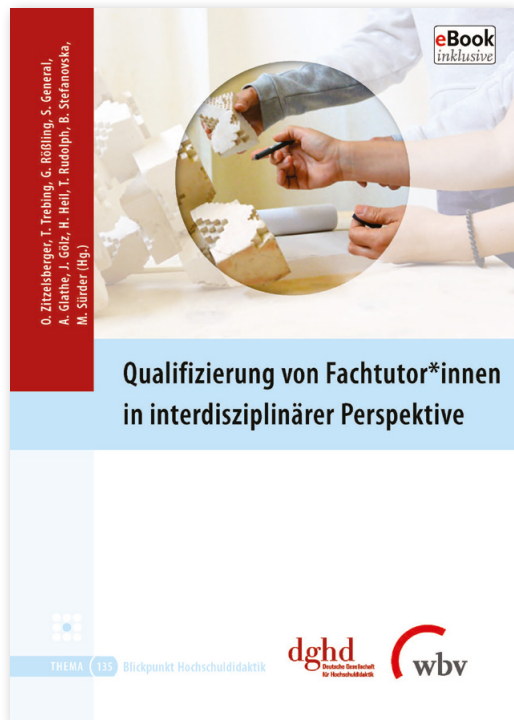
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In einem Praxiskapitel werden Möglichkeiten der Anwendung in einzelnen Disziplinen vorgestellt. Das Abschlusskapitel berichtet über die besonderen Strukturen der TU Darmstadt und die gelebte Interdisziplinarität in der Tutoriellen Lehre.



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Higher education institutions constantly need to strategise in order to respond to changes in their environments. Discussing what changes are needed and what changes are possible and appropriate is at the very core of the International Deans' Course (IDC). The IDC is a collaborative effort of German organizations working with experts at six universities in Africa and Southeast Asia: German Academic Exchange Service (DAAD), the German Rectors' Conference (HRK), the Alexander von Humboldt-Foundation (AvH), the Centre for Higher Education (CHE) and the Osnabrück University of Applied Sciences in Germany, the Addis Ababa University in Ethiopia, Centro Escolar University Malolos in the Philippines, Gadjah Mada University in Indonesia, Multimedia University in Malaysia, Taita Taveta University in Kenya, and the University of Western Cape in South Africa.

As part of this initiative, participating deans of the courses in 2016/2017 and 2017/2018 identified opportunities for change projects at their institutions, worked on identified projects, discussed them with other participants, and several of them have in this volume finally put on paper their reflections in order to share their experience with a wider audience.

The chapters in this book can serve as tool box for change. The contributions demonstrate that change requires individual effort, vision and endurance, but at the end can be successful. The cases equally underscore the importance of team work in making change a reality. They hopefully inspire leaders to move ahead despite difficulties and challenges. In sum, the clear message from the contributions is that: Change is possible, change is important, leaders can make a difference.

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