Capacity building and institutional strengthening: Ghanaian technical universities in perspective

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ABSTRACT

Though universities are considered to be at the top of the transformation chain that generates the skills and competences needed in development, one of the major internal challenges faced by the technical universities in Ghana in delivering on their new mandate has been the need for building the capacity and competences of academic staff. This study, which is part of a doctorate studies, sought to examine the extent of participation of academic staff in seminars, workshops, conferences, mentoring and ICT training aspects of capacity building programmes in Ghanaian technical universities and its implication for institutional strengthening. This investigation was directed by one research question and two hypotheses. From a population of 1872 full time academic staff in the universities, 320 staff were sampled through stratified random sampling. A self-developed questionnaire was used to collect data. Data were subjected to statistical analysis with the use of descriptive statistics, Population t-test and Independent t-test. The study revealed that academic staff in the universities participate mostly in conferences than any other capacity building programme and that their participation in these programmes is significantly low. However, no significant difference exist between male and female academic staff’s participation in capacity building programmes. The study concludes that building the capacity of academic staff needs to be considered as a strategic priority improving the quality of teaching and research output among academic staff. It therefore recommends that the universities, in collaboration with other stakeholders, should provide enabling environment to support academic staff to fully participate in capacity building programmes to equip them with the required competences.

Key Words: Competence, professional development, mentorship, academic staff and competitiveness


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I. Introduction

Technical Universities in Ghana are mandated by the Technical Universities Act, 2016 (Act 922) to provide higher education in engineering, science and technology based disciplines, technical and vocational education and training, applied arts and related disciplines for the development of the industrial and technological base of the economy. This function is executed through the impartation of relevant knowledge and skills to people and academic staff to enable them acquire the requisite competences that enhance value-adding decision-making processes, and as well develop the requisite capacity to effectively handle challenges enshrined in their job positions and ultimately improve their job performance (Institute for Governance and Sustainable Development Studies, 2010). In line with the achievement of the broad objectives of the universities, Act 922 further requires the institutions to build a competent workforce in the area of administration, teaching and research to suit their new status. This behooves on the universities to focus attention on building the capacity of their academic staff. In the universities in Ghana, capacity building programmes have been adjudged to be critical factors culminating in their positions as major determinants of the professional advancement of academic staff. Apart from gaining pedagogical and content knowledge, participation of academic staff in these programmes would enhance capacity building effectiveness in the universities. It would transform the abilities and skills of academic staff in such a way and manner that they meet and fit adequately in the challenges of their jobs. Hattie (2010) observes that constantly improving the quality of teachers and teaching through capacity building is a key feature of all high performing educational systems. As suggested by Maphosa and Wadesango (2014), academic institutions should mount regular and periodic professional development workshops on teaching and learning and to provide platforms on which academic staff can engage in conversation about their profession. Akbar (2003) observed that the main function of universities is to train the future generation of citizens and develop capacity in all fields of knowledge, both in technology as well as in the natural, human and social sciences.

Though universities are considered to be at the top of the transformation chain that generates the skills and competences needed in development, one of the major internal challenges faced by the technical universities in Ghana in delivering on their new mandate has been the need for building the capacity and competences of academic staff to befit their new status. A study by Korantwi-Barimah and Ofori (2014) revealed that capacity building efforts of the technical universities in Ghana, Polytechnics then, have been hampered by institutional inadequacies and lack of funds. Currently, there is a general perception that a significant number of academic staff in our technical universities are not equipped to deliver quality tertiary technical education, as required, for a number of interconnected reasons chief among them being inadequate funding, training-related issues, infrastructural limitations and low morale. Such an environment predisposes both academic staff and students to failure and do not promote teaching excellence in the universities. The situation has negatively affected institutional provisions for participation of academic staff in conferences, seminars, workshops and other training and development programmes. This state of affair, if left unresolved, would seriously undermine the role, importance and contribution of technical universities to Ghana’s socio-economic development. In order to bring desired change in the universities, this study argues that enhancing the capacities of academic staff will be a major step in improving the quality of teaching and research output among academic staff. Consequently, this paper seeks to answer obvious question; “What is the extent of academic staff’s participation in capacity building programmes in terms of workshops, ICT training, seminars, conferences and mentoring, and its implication for institutional strengthening of the universities?

Research Question

Which capacity building programme has the highest level of participation by academic staff in Ghanaian technical universities?

Hypotheses

To achieve the objectives of the study, the following were hypothesized:

1. Participation of academic staff in capacity building programmes in terms of workshops, ICT training, seminars, conferences, and mentoring is not significantly low.
2. Male and female academic staff do not differ significantly in their participation in capacity building programmes.
II. Empirical Review

According to Egbo (2011) capacity building refers to the allocation of, and investment in resources-physical, intellectual or human, especially when other intervening variables have failed within a given institutional or social context. Naafosso (2011) describes capacity as an acquired or developed knowledge which enables an individual to succeed in a physical or intellectual activity. In this context, the Naafosso (2011) posits that capacity building broadly covers three activities, namely; professional enhancement, procedures improvement and organisation strengthening. Bain et al. (2011) define capacity building as “a set of coherent, deliberate strategies enacted at a whole school level to positively influence the knowledge, skills, and priorities of individuals and the school as a collective as together they seek to implement change”. The authors’ approach to capacity building was predicated on the principle of schools as self-organising systems, and equated capacity building with the current understanding of professional development and learning.

Crowther (2011) concurs with Bain et al. (2011) by describing capacity building as the intentional process of mobilising an institution's resources in order to enhance priority outcomes and sustain those improvements.” Fullan (2010) asserts that “capacity building concerns competencies, resources and motivation. Individuals and groups are high in capacity if they possess and continue to develop the knowledge and skills...if they are committed to putting the energy to get important things done collectively and continuously”. Capacity building demands for effective and efficient administrators. This is particularly true as it is more of an institutional affair, and so requires purposeful and results-oriented administration to drive it. As argued by Hattie (2010), constantly improving the quality of academic staff and teaching through capacity building is a key feature of all high performing educational systems. Egbo (2011) observed that increasing student achievement depends on teachers whose performance in turn, hinges on building their capacity.

Capacity can be built at different levels. The United Nations Committee of Experts on Public Administration (2006) points out that capacity building takes place on an individual, institutional and societal levels. On an individual level, it requires the development of conditions that allow individual participants to build and enhance existing knowledge and skills. On an institutional level, it involves aiding pre-existing institutions and supporting them in forming sound policies, organisational structures and effective method of management. At the societal level, it supports the establishment of a more interactive public administration that learns equally from its actions and from feedback it receives from the population at large. It is more than a training programme. It is based on needs analysis and audits capability and potential. It requires the design of strategic interventions that employ and challenge the enhancement of strengths, exploit opportunities, confront constraints and supplement gaps and limitations (Southwell et al., 2005). Beckton (2010) offers a more comprehensive view of the role of universities as they build the capacity of their staff by stating that this entails: the encouragement of innovation in teaching and learning, implementation of institutional teaching and learning strategies; providing professional development for staff; support for students; promoting the use of learning technologies; and carrying out research into teaching and learning. What this means is that the technical universities in Ghana should operate from an informed point of view in which they offer strategic support in wide-ranging issues pertaining to teaching and learning in their effort to building the capacity of their staff to enhance their competitiveness.

Approaches to build capacities of academic staff

According to United Nations Environment Programme (2006), a wide range of approaches are available to build capacities including training, formal education, capacity building projects, networking and others. Rivers (2005), as cited in Ndebele and Maphosa (2014), identified a number of activities that tertiary institutions could engage to assist academic staff to improve their teaching practice. Some of these strategies include short training courses, academic work groups, peer evaluation, feedback and support, effective use of students’ evaluation reports, and long term teaching qualifications. Leask (2006) contends that critical areas for educational institutions entail the need to design staff development programmes that empower academic staff in various academic issues. This shows that academic institutions assist academic staff in all aspects of the curriculum in order to enhance teaching and learning. Chase (2005) reported that academic staff feel that their development is greatly affected by freedom to attend conferences as this enhances their professional status, raises
their awareness of new developments in the field. Thus, conferences provide opportunities to those academic staff that participate in them to share information and ideas with the experienced ones; experienced academic staff to transmit institutional, planning and management skills that can help new academic staff to break the isolation, reflect on a day’s experience and redirect efforts for the following days (Hayden, 2003).

According to Nakpodia (2001), seminars are organised for personnel in schools to keep them adequately informed of certain developments in academics or education which are vital for the performance of their primary functions. This accounts in no small measure in enhancing their role performance skills and provide on-the-job training to expose them to new techniques concerning content and pedagogy (Jacob and Lefgren, 2001).

Workshops focus on training and development of academic staff which facilitate the impartation of specific skills, abilities and knowledge to them. It was observed by Sergiovanni and Elliot (2000) that in workshops, participants are actively involved in contributing data, solving a problem or conducting an analysis using quantifiable data. The results, in the form of feedback, enable participants to compare their reactions with those of others and thereafter the results are discussed and analysed to develop generalizations and implications for practice.

Akuegwu et al. (2007) found that access to training on ICT equipment by academic staff is significantly low. That is, academic staff have little or no exposure to training on ICT equipment. The implication is that the opportunity by academic staff to receive training on the operation of ICT equipment is yet to bear fruit and that, effort to build capacity in this area is still low.

With regards to mentoring, Boice (1992) asserts that mentoring supports professional growth and renewal, which in turn empowers faculty as individuals and colleagues. Luna and Cullen (1995) note that teaching and research improve when junior faculty are paired with mentors, which also leads to job satisfaction and greater organisation socialization. "Not only do protégés become empowered through the assistance of a mentor, but mentors themselves also feel renewed through the sharing of power and the advocacy of collegiality", the authors added.

III. Materials and Methods

The area of this study comprises the eight (8) technical universities in Ghana. This survey study had 1872 as the population of permanent academic staff in the universities. A stratified random sample of 320 academic staff was drawn from this population, meaning that 40 academic staff was draw from each university. This sample was drawn in such a way that male and female academic staff were represented adequately.

Data were collected using a questionnaire constructed by the researchers. The instrument contained 2 sections – A and B. Section A was made up of 6 demographic variables, while section B arranged on a four-point Likert rating scale which had 30 items, 6 of which measured each of the five variables isolated for the study. In all, the questionnaire contained 36 items. The instrument was face-validated by experts in measurement and evaluation, while the pilot testing was conducted by administering 10 copies of the questionnaire to 10 academic staff in a near-by university. The scores obtained were analysed using Cronbach Alpha Method. The results gave rise to a reliability coefficient which ranged from 0.69 to 0.92. When an instrument is developed, its reliability should be as close to 1 as possible. Consequently, it was confirmed that the instrument was reliable enough in achieving the objectives set for the study.

The questionnaires were personally administered by the researchers and with the help of research assistants from each university, a measure which ensured that the sampled subjects completed the questionnaire correctly. By this, an 80% return rate was achieved for the instruments. Data were statistically analysed using Mean rating, Population t-test and Independent t-test. Summaries of the results were presented in tables.
IV. Results and Discussion

Research question: Which capacity building programme has the highest level of participation by academic staff? The variable identified in this question is capacity building programme participation by academic staff. Mean rating statistical technique was used to analyse the data collected. Summaries of the results were presented in Table 01.

Table 01. Mean rating of participation of academic staff in capacity building programmes (N = 320)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workshops</td>
<td>15.48</td>
<td>3.23</td>
<td>5th</td>
</tr>
<tr>
<td>Seminars</td>
<td>15.49</td>
<td>3.34</td>
<td>4th</td>
</tr>
<tr>
<td>Conference</td>
<td>15.81</td>
<td>3.31</td>
<td>1st</td>
</tr>
<tr>
<td>ICT Training</td>
<td>15.53</td>
<td>3.27</td>
<td>3rd</td>
</tr>
<tr>
<td>Mentoring</td>
<td>15.68</td>
<td>3.17</td>
<td>2nd</td>
</tr>
</tbody>
</table>

Table 01 indicates that Conferences had the highest mean participation (X = 15.81), followed by Mentoring (X = 15.68), ICT Training (X=15.53), Seminars (X = 15.49) and lastly Workshops (X =15.48). The implication is that academic staff participate mostly in conferences and least in workshops. Thus, capacity building among academic staff is witnessed most in conferences and least in workshops.

Hypothesis one: The level of participation of academic staff in capacity building programmes in terms of workshops, seminars, conferences, ICT training and mentoring is not significantly low. The only variable in this hypothesis is participation of academic staff in capacity building programmes. Population t-test was used in analysing data collected. Summaries of the results are presented in Table 02.

Table 02. Level of Participation of academic staff in Capacity Building Programmes (N=320)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Mean (µ)</th>
<th>Observed Mean</th>
<th>Standard Deviation</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workshops</td>
<td>15</td>
<td>15.48</td>
<td>3.23</td>
<td>85.87*</td>
</tr>
<tr>
<td>Seminars</td>
<td>15</td>
<td>15.49</td>
<td>3.34</td>
<td>83.05*</td>
</tr>
<tr>
<td>Conference</td>
<td>15</td>
<td>15.81</td>
<td>3.31</td>
<td>85.58*</td>
</tr>
<tr>
<td>ICT Training</td>
<td>15</td>
<td>15.53</td>
<td>3.27</td>
<td>84.37*</td>
</tr>
<tr>
<td>Mentoring</td>
<td>15</td>
<td>15.68</td>
<td>3.17</td>
<td>88.47*</td>
</tr>
</tbody>
</table>

*Significant at 0.05; df = 319; critical t-value = 1.966

The results presented in Table 02 revealed that participation of academic staff in capacity building programmes is significantly low with respect to Workshops (t = 85.87, p <.05), Seminars (t = 83.05, p <.05), Conferences (t = 85.58, p <.05), ICT Training (t = 84.37, p < .05) and Mentoring (t = 88.47, p <.05). By these results, the null hypothesis is rejected because the obtained t-values are found to be higher than the critical t-value of 1.966 at 0.05 level of significance and 319 degrees of freedom. The results in Table 02 further indicate that the observed mean level of academic staff’s participation in capacity building programmes is higher than the expected mean level of academic staff’s participation in capacity building programmes of 15.00. Statistical comparison of these observed mean values and the expected mean value of 15.00 using population t-test (test of one sample mean), positive t-values were obtained. This implies that academic staff in Ghanaian technical universities have low level of participation in capacity building programmes.

Hypothesis two: Male and female academic staff do not differ significantly in their participation in capacity building programmes. The independent variable is gender, while the dependent variable is participation of academic staff in capacity building programmes. Independent t-test statistical technique is used to analyse data obtained from the two variables. Summaries of the results are presented in Table 03.
Table 03. Difference between male and female academic staff in their participation in capacity building programmes

<table>
<thead>
<tr>
<th>Variable</th>
<th>Male (N=216)</th>
<th>Female (N=104)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workshops</td>
<td>15.40</td>
<td>15.72</td>
<td>-0.889</td>
</tr>
<tr>
<td>Seminars</td>
<td>15.52</td>
<td>15.37</td>
<td>0.385</td>
</tr>
<tr>
<td>Conference</td>
<td>15.87</td>
<td>15.78</td>
<td>0.231</td>
</tr>
<tr>
<td>ICT Training</td>
<td>15.58</td>
<td>15.49</td>
<td>0.237</td>
</tr>
<tr>
<td>Mentoring</td>
<td>15.66</td>
<td>15.72</td>
<td>-0.154</td>
</tr>
</tbody>
</table>

Not significant at 0.05; df = 318; critical t-value = 1.966

Results of hypothesis 02 presented in Table 03 held that male and female academic staff do not differ significantly in their participation in capacity building programmes with respect to Workshops (t = -0.889, p > 0.05); Seminars (t = 0.385, p > 0.05); Conferences (t = 0.231, p > 0.05); ICT Training (t = 0.237, p > 0.05) and Mentoring (t = -0.154, p > 0.05). With these results, the null hypothesis is retained because the obtained t-values are found to be lower than the critical t-value of 1.966 at 0.05 level of significance and 318 degrees of freedom. Further examination of the results revealed that male academic staff have higher mean participation in capacity building programmes in terms of Seminars (X = 15.52) and Conferences (X = 15.87) than their female counterparts. This means that these capacity building programmes yield more benefit to male academic staff than their female colleagues. Similarly, female academic staff have higher mean participation in Workshops (X = 15.72) and Mentoring (X = 15.72) aspects of capacity building programmes than their male counterparts. This implies that female academic staff derive more benefits from these programmes than their male colleagues.

Discussion

Results of the research question held that conferences had the highest level of participation by academic staff in the universities, followed by mentoring, seminars, ICT training and lastly workshops. This means that academic staff participate mostly in conferences and least in workshops among the capacity building programmes. The reason for conferences having the highest level of participation by academic staff is not far-fetched. Conferences accomplish two principal roles in the lives of academic staff-exposure to new techniques in teaching and learning thereby updating knowledge and serving as avenues for research publications. Thus, academic staff are willing to spend their personal resources on conference attendance to achieve these goals. This finding is corroborated by the outcome of Akuegwu et al. (2006) study that the attitude of academic staff towards conference attendance is significantly high and that it is in conferences that academic staff learn new skills, techniques, knowledge and experiences that enhance their professional career. The research publication that arises from conference participation would facilitate capacity building of the technical universities and culminates in their rankings among the best in the world.

Results of hypothesis one disclosed that participation of academic staff in capacity building programmes is significantly low with respect to workshops, seminars, conferences, ICT training and mentoring. This paves way for the rejection of the null hypothesis and the retention of the alternate one. This finding suggests that participation of academic staff in capacity building is below expectation. That is, it is far from being ideal and as such does not produce the desired result. This low level of participation of academic staff in capacity building programmes in the universities can be attributed to poor funding which Ghanaian technical universities, formerly polytechnics, have been grappling with over the years, especially following their upgrading. This has negatively affected institutional provisions for participation by academic staff in capacity building activities. Meaning, the universities find it difficult to sponsor their academic staff to these programmes or even organise some themselves, with a consequence of low capacity building to the institutions.

It is however pertinent to mention that poor funding affects the participation of academic staff in seminars, conferences, ICT training and not mentoring. As part of this finding, mentoring was found to be significantly low. This is a bit surprising because mentoring is more of tutelage of junior academic staff by experienced ones, which is useful and powerful in understanding and advancing
organisational culture, providing access to informal and formal networks of communication and effecting professional stimulation to both categories of faculty members (Luna and Cullen, 1995). This finding suggests that mentoring in the technical universities in Ghana has not provided these benefits to the academic staff, and as such, capacity building that would have resulted from there is lacking. Impliedly, this aspect of capacity building in the universities has not been properly and adequately explored.

The outcome of hypothesis two revealed that male and female academic staff do not differ significantly in their participation in capacity building programmes in the universities. Thus, the null hypothesis was retained, while the alternate hypothesis was rejected. This finding suggests that the extent to which male academic staff participate in capacity building programmes in the areas of seminars, conferences, ICT training and mentoring is the same extent to which their female counterparts participate in them. Despite the fact that these categories of academic staff differed in their mean (X) participation in these capacity building programmes, it was however not tangible enough to warrant a significant impact. It therefore follows that gender is not a factor in academic staff’s participation in capacity building programmes in the technical universities. A probable explanation for this finding is that male and female academic staff work in the same university environment, exposed to the same working conditions and the same university administration. Therefore, the provisions made available for male academic staff to participate in capacity building programmes are the same provision made available to their female folks. Moreover, both categories of academic staff are given the same support by their respective university administrations regarding participation in these programmes. Therefore, given the same prevailing circumstances academic staff are exposed to in their participation in capacity building programmes in the technical universities, the level of participation is bound to be the same. This finding corresponds with the position of Plato in Ekanem (2005) that men and women have equal ability and can attain the same height, given the same opportunity.

V. Conclusion and Recommendations

Based on the strength of the findings, this study concludes that academic staff in Ghanaian technical universities participate mostly in conferences than any other capacity building programme. The level of participation of academic staff in capacity building programmes is significantly low with respect to seminars, conferences, ICT training and mentoring. There is no significant difference between male and female academic staff in their participation in capacity building programmes. The seed of these findings are that despite the fact that academic staff’s participation in capacity building programmes in the universities in significantly low, they still find a way to participate actively in conference because of the obvious dividends it yields to them. Gender is not a factor in academic staff’s participation in capacity building programmes in the technical universities. Capacity building programmes have revolutionized the university system by ensuring exchange of ideas, knowledge and experience, which contribute to the abilities of the universities to deliver on their mandate.

The following implications are articulated from the findings of this study:

- Academic staff in the universities participating mostly in conferences than any other capacity building programme implies that all efforts of academic staff are channeled towards this programme to the detriment of others, because of its enviable role in their promotion and global ranking of universities. Therefore the goals which are expected to be derived from other capacity building programmes at present will suffer a setback and by extension that of the future.
- The low participation in capacity building programmes in respect of seminars, ICT training, conferences, workshop and mentoring by academic staff implies that these programmes are lowly attended to by academic staff and as such, the benefits they are expected to derive from them are lacking. Impliedly, the universities have not been reaping the gains of capacity building programmes the way they are supposed to. Therefore, the new knowledge, techniques and experiences that would have resulted from academic staff’s participation in capacity building programmes, which to a large extent enhances institutional strengthening, are not acquired as supposed to. Impliedly, the universities are not living up to the expectation of performing creditably the roles for which the institutions are established. This will therefore affect the development, competitiveness and sustainability of the universities.
The no significant difference in male and female academic staff's participation in capacity building programmes implies that capacity building programmes are regarded the same way by male and female academic staff. None perceived them as more important. The relevance attached to participation in capacity building programmes by male academic staff is the same importance attached to them by their female counterparts.

**Policy Recommendations**

From the findings, this study recommends that enabling environment should be created in the technical universities to encourage and support academic staff to massively participate in workshops, seminars and conferences. This will equip them with new skills, techniques, knowledge and experiences necessary to enhance or build their job performance capacity at the individual levels. Additionally, the capacity derived from these development programmes by academic staff can place them on a better pedestal to tackle present and future challenges in academia. For the technical universities, participation of academic staff in these programmes will give them the enablement to be relevant and also enhance their global rankings. Further, management of the universities should institute and promote formal mentorship programmes whereby junior academics will be paired with experienced ones to mentor them. This will not only enhance the empowering capacity of the technical universities on their academic staff, but will also improve teaching and research, job satisfaction and organisational socialization by their academic staff. Finally, it should be realized that tertiary education is capital intensive. Without adequate funding, the universities will exist as shadows of what a tertiary institution is all about. The Ghanaian government should therefore improve upon funding of tertiary institutions by meeting the UNESCO benchmark of 26 percent of annual budgets. This will place the institutions on sound footing to successfully meet the present challenges without compromising that of the future. Alternatively, the authorities of the universities should look inwards by sourcing for funds to organise seminars, workshops and conferences internally. This will enable academic staff who may not have the opportunity to participate in external ones to participate in the internal ones. As such, the benefits academic staff derive from participating in external capacity building programmes will be available internally. This will go a long way in promoting the potential continuity of the technical universities in Ghana and also give them the leverage to occupy a pride of place among their peers in the Sub-Saharan Africa. Future research needs to continue to address the current capacity building challenges in Ghanaian tertiary institutions and the implications thereof for the competitiveness and the sustainability of institutions of higher learning globally.

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**VI. References**


