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PERCEPTIONS OF ACADEMIC STAFF MEMBERS ON FACTORS OF CAPACITY BUILDING IN GHANAIAN POLYTECHNICS

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ABSTRACT: *This article, which reports on a doctoral research project, explores the perceptions of academic staff on factors of capacity building with special reference to Ghanaian polytechnics, where the institutions are facing unprecedented capacity building challenges. A convenience sample of 1026 academic staff members were drawn from a population of 2575 permanent lecturers in the ten polytechnics. Data were collected through a questionnaire constructed by the researchers. Data collected were subjected to statistical analysis with the use of descriptive statistics, ANOVA and Population t-test. The study found that the factors that affect capacity building of academic staff include institutional training and development; performance and professional development; academic competence; and learning and developmental environment. The study further identified some capacity building gaps in the polytechnics. However, there is no significant difference between male and female lecturers' perception on capacity building in the polytechnics. Lecturers' perception on capacity building is also significantly high with respect to the identified factors and that significant differences exist between the demographic (designation) groups and the identified factors. The study concludes that building the capacity of academic staff is critical to successful teaching and learning and that capacity building should be the starting point for the on-going transformation in Ghanaian polytechnics. It therefore recommends that policy makers in Ghana be urgently spurred into devising important strategies that would proactively respond to the current capacity-building challenges in the institutions. Moving forward, a context-responsive areas of strategic intervention vis à vis capacity building of academic staff are proposed.*

KEYWORDS: Perceptions, Ghanaian polytechnics, capacity building, staff development; institutional training, academic competence.

INTRODUCTION

The Polytechnic Act, 2007 (Act 745) requires Ghanaian polytechnics to build competent academic staff in the areas of teaching and research to deliver on their mandate. According to Egbo (2011), there is a consensus among stakeholders in education that, as micro-level practitioners, teachers represent a centripetal force in most education systems and that performance should be inextricably linked to educational outcomes for both learners and the system. With particular reference to Ghanaian polytechnics, Bakah (2011) mentions that teachers are the key players during curriculum reforms with regard to upgrading of Higher National Diploma (HND) programmes and designing of Bachelor of

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Technology programmes. Rampal (2000), as cited in Rizvi (2010), maintains that academic qualifications, knowledge of subject matter, competence and skills in teaching and commitment of teachers all have an effect on developing students' learning. The polytechnics are therefore required to periodically enhance the capabilities and capacity of their academic staff to generate and disseminate knowledge if they are to remain relevant in this globalized world.

However, one of the major internal challenges facing the polytechnics in Ghana in meeting the demands of relevant curricula, quality teaching and learning has been the need for continual updating of the professional knowledge and skills of lecturers (Gervedink Nijhuis et al. 2009). The availability and effectiveness of capacity-building programmes offered to academic staff at Ghanaian polytechnics have become a major area of concern, especially with regard to quality teaching, research, and service delivery (Nsiah-Gyabaah, 2009). Korantwi-Barimah and Ofori (2014) observed that most of the polytechnics in Ghana are not influencing the professional development of their academic staff to enhance teaching and learning, and this has resulted in low research productivity and poor delivery. Equally worrisome is the fact that there is an ongoing public outcry of production of sub-standard polytechnic graduates in Ghana which has been partly attributed to teachers who, as the arguments goes, have not been carrying out their primary mandates of teaching and promoting learning in the polytechnics. Ironically, the solutions appear to be elusive. While some stakeholders blame the lecturers and management of the polytechnics for this apparent decline in quality of polytechnic education, others blame the government for unattractive conditions of service and poor infrastructure in the institutions. However, the most important question one needs to be asking is why are academic staff in Ghanaian polytechnics underperforming?. This paper would argue that the answers to this question coalesce around policy-related variables, inadequate resource allocation and the failure to build capacity of academics in any significant way.

Against this background, this study sought to explore the perceptions of academic staff on the factors that influence capacity building in the polytechnics to enhance teaching and learning. A key motivation for this study is the fact that limited empirical studies on capacity building in Ghanaian polytechnics context exist. This study therefore seeks to provide insights into the perspectives of academic staff members into the challenges to and strategies for capacity building across the various polytechnics in Ghana. The study argues that building the capacities of academic staff will be a major step in improving the quality of teaching and research to prepare polytechnic graduates to contribute meaningfully to Ghana's socio-economic development.

The research question guiding our inquiry is: What factors influence capacity building of academic staff in Ghanaian polytechnics? Beside this general question, the study has specifically addressed the question of: Are there significant differences between the demographic groups and the identified capacity building factors in the polytechnics?

LITERATURE/THEORETICAL UNDERPINNING

Conceptualising Capacity building

For conceptual clarity, the current study begins with a definition of the concept of capacity building. According to Enemark (2006), it is generally accepted that capacity building is closely related to education, training and human resource development (HRD). Egbo (2011) asserts that capacity

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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. Crowther (2011) describes capacity building as the intentional process of mobilising a school's resources in order to enhance priority outcomes and sustain those improvements. Fullan (2010) asserts: "*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"*.

As argued by Hattie (2010), constantly improving the quality of teachers and teaching through capacity building is a key feature of all high-performing education systems. Maphosa and Wadesango (2014) suggest that academic institutions should present regular and periodic professional development workshops on teaching and learning and provide platforms where academic staff could engage in conversation about teaching and learning. Naafosso (2011) posits that capacity building broadly covers three activities, namely professional enhancement, procedures improvement and organisation strengthening. Anfara and Mertens (2012) build on the notion that teacher capacity is influenced by other complex factors, and summarize what they see in the research literature as five common areas for capacity building: teacher knowledge, skill, and disposition; professional communities; program coherence; technical resources; and leadership. Egbo (2011) argues that increasing student achievement depends on teachers whose performance, in turn, hinges on building their capacity. Niyozov (2008) contends that no nation can build a strong and effective educational system without the continuous appraisal and subsequent improvement of its teacher training programmes since teachers remain the pillars of the system. It can therefore be argued that disregarding the capacity building needs of academic staff in the polytechnics would be inimical to the progress of Ghana's tertiary educational system.

Analytical framework: Factors of capacity building

In analyzing capacity building of academic staff at the polytechnics in Ghana, the study identified and drawn upon four major categories of factors that can be said to influence capacity building. These factors, which were grouped according to the principal axis factor analysis as outlined below, are institutional training and development; performance and professional development; academic competence; and learning and developmental environment.

Institutional training and development

Effective institutional training and development, which aims at updating the competence of academic staff on a regular basis, is seen as the best way to facilitate the ongoing change in Ghanaian polytechnics. Othman and Dahari (2011) explained that training consists of a "presenter or team of presenters sharing ideas and expertise through various group-based activities, which can take many forms, such as large-group presentations and discussions, workshops, seminars, colloquia, demonstrations, role-playing, simulations, and micro-teaching". Armstrong (2009) opines that development is concerned with ensuring that a person's ability and potential are grown and realised through the provision of learning experiences or through self-directed learning, whilst training involves the application of formal processes to impart knowledge and help people to acquire the skills necessary for them to perform their jobs satisfactorily.

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Elaborating on the approaches to learning, Akomolafe (2013) suggests that formal continuing professional education programmes are made up commonly of a) conferences, b) seminars, and c) lectures in which formal, abstract and general knowledge is transferred from experts to the professional works. Armstrong (2009), however, argues that their effectiveness is increased by joining up different methods of learning and development and by encouraging self-directed learning. Duze (2012) emphasises that teachers can strengthen self-directed learning in addition to reinforcing the value of sharing of knowledge and information. The polytechnics should be made centres for innovation and generation of ideas. This requires investment in professional development of academic staff. Othman and Dahari (2011) argue that improving the quality of teaching and learning requires effective strategies and continuous professional development. Ghanaian polytechnics can upgrade the professional skills of their academic staff through in-service training in the form of industrial attachment to enhance their teaching performance. Such a strategy will ensure that academic staff members are equipped with the necessary workforce skills and capabilities for the foreseeable future.

Performance and professional development

Professional development in today's world is considered a very important issue in human resource management and development in education in equipping academic staff for meaningful and effective teaching and learning. According to Hightower *et al*. (2011), professional development focuses on improving the ongoing practice of teaching and learning for those already serving in the schools. Similarly, Othman and Dahari (2011) explained professional development as "those processes and activities designed to enhance the professional knowledge, skills, and attitudes of educators so that they might, in turn, improve the learning of students". Hiebert *et al.* (as quoted by Bakah (2011) argued that changes in the nature of teachers' work, subject matter and student populations challenge prevailing beliefs and practices and require on-going development of knowledge and skills. Othman and Dahari (2011) maintain that continuous professional development for teaching and learning is essential for ensuring continuous quality improvement and professional competence of teachers.

In order to impact student learning, Hightower *et al. (*2011) suggest that professional development must first enhance the knowledge and skills of staff and then create improved classroom teaching. MacBeath (2012) offers the following professional development strategies, which could be a source of reference to the polytechnics in building leadership whilst creating a continuous learning culture within the academic staff members: peer observation; collaborative lesson planning; mentoring, coaching and critical friendship; sharing and discussing students' work; structured practice-focused workshops, and the learning wall. Seddon and Cairns (as cited by Rizvi (2010)) argue that in any contemporary educational initiatives, reforms and developments, building capacity and enhancing capability through learning, which leads to knowledge development, are seen to be significant processes which sustain organisational and social progress with important implications for leadership.

Academic competence

Capacity building for academic staff in Ghanaian polytechnics should aim at equipping academic staff with the requisite competencies necessary for successful performance. Ghani, Shahadan and Liew (2013) argue that "academic excellence and competence are crucial to those who continue to look for knowledge, new ideas and approaches through an environment and a culture of learning and teaching". Elaborating on competency, Molefe (2012) states that competencies are "overt and manifesting behaviour that allows a person to perform competently". Molefe (2010) mentions that an approach

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adopted internationally in line with competency-based thinking suggests that some of the competencies that may be associated with lecturers' positions include communication skills, interpersonal skills, leadership, self-development, development of others, commitment to quality, innovation and creativity, decision-making, research, subject mastery, professional relations, learner assessment, organisational skill, listening skills, originality, critical analytical skills, and the ability to challenge conventional views. The polytechnics should build the capacity of academic staff to possess these sets of competencies. This will have a tremendous impact on the effectiveness and sustainability of polytechnic education in Ghana. Brown (2009) proposes three activities which enhance the competence of academic staff: (1) technical skill development to help academic staff to teach or research effectively, (2) mentoring to provide staff with advice, support and a sounding board for self-review and appraisal, and (3) work culture development.

Learning and developmental environment

To create and manage a conducive learning and developmental environment, the polytechnics should have certain uplifting cultural characteristics. These characteristics, according to Robbins and Coulter (2007), include a strong sense of purpose, focusing on individual development, trust and openness, employee empowerment and toleration of employee expression. The polytechnics can achieve effectiveness only when their employees share organisational culture. Robbins and Judge (2008) describe organisational culture as, "a system of shared meaning held by members that distinguishes the organisation from other organisations". Glaser (2007) concurs with Robbins and Judge (2008) by stating, "culture represents the way work is done, from how one makes decisions, to how one runs meetings, to how one assigns projects, to how one recognises and rewards effort, to the way one develops employees". Sharing and working on their practice together will make academic staff learners of their own teaching. According to Gibson *et al.* (2006), in order to create a cohesive, positive organisational culture, the institution should create a sense of history and membership, and increase the exchange between members through leadership and role modelling, communicating norms and values, reward systems, career management, recruiting and staffing, socialisation of new members, training and development and member contact.

For capacity building to be sustainable in Ghanaian polytechnics, new technologies and new knowledge and information need to be introduced, especially in this period of ICT as suggested by Amadi and Abdullah (2012). McKinsey's (2010) report suggests three ways of improving systems: (1) by establishing collaborative practices, (2) by developing a mediating layer between the schools and the centre, and (3) by architecting tomorrow's leadership. Amadi and Abdullah (2012) identified three main capacity-building activities:

- Developing skill – learning and training opportunities for individuals and groups, and sharing through networks and mutual support to develop skills, knowledge and confidence
- Developing structures – developing the organisational structures and strengths of community groups, communities of interest and networks
- Developing support – developing the availability of practical support to enable the development of skills and structures.

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RESEARCH METHODOLOGY

Research Design

A cross-sectional survey design was utilised and included questionnaires that participants had to complete. Creswell (2012) asserts that this design has the advantage of measuring current attitudes, beliefs, opinions or practices and also provides information in a short time. Furthermore, a quantitative approach was utilised. Babbie (2008) observes that quantitative research makes observations more explicit and also makes aggregating and summarising data easier.

Population and Sampling

The study population comprised the entire 2575 permanent academic staff in the 10 polytechnics. The decision to use all the academic staff as respondents was based on the objective of increasing the validity and reliability of the findings. Convenience sampling was chosen as a method of non-probability sampling for this study. This means that not all elements had an equal chance, and conclusions will only be made about those who complete the questionnaire. Consequently, 1026 academic staff members who were available during the time the data were collected in the polytechnics were used as the sample for the study. The selection of academic staff as participants was motivated by a) the factor of convenience, in that one of the authors was a lecturer in one of the polytechnics, and b) the polytechnics' suitability as a research setting – they are faced with unprecedented capacity building challenges. The selection of academics was in line with McMillan and Schumacher's (2006) requirement of maximum sampling variation to obtain a variety of differences of perception.

Description of the Sample

In terms of the age distribution of the 447 responses received, 32 (7.2%) were under 30 years, 129 (28.9%) between 30 and 39 years, 201 (45.0%) between the ages 40 and 49 years, and 85 (19.0%) were between 50 and 60 years of age. The gender distribution indicated that more males (64.0%) than females (34.5%) responded to the questionnaire. Only 1.6% preferred not to answer the question profiling the designation of respondents. It was clear that the majority of respondents were senior lecturers (41.61%), followed by lecturers (38.48%), assistant lecturers (8.72%), associate professors (6.04%), professors (2.68%), and other designations (2.46%), in that order. A total of 7.83% had a bachelor's degree or equal qualification, 63.53% had a master's degree, 28.19% held a doctorate degree and 0.46% had other qualifications.

Instrument used

In order to identify factors that contribute to capacity building of academic staff, a self-constructed questionnaire was used. The questionnaire included four Likert-type rate scales with closed-ended questions based on relevant capacity building factors identified in the literature. The items in the questionnaire were scaled items in the form of a statement followed by a scale of potential responses. The questionnaire contained thirty-eight items. The administration of the instruments was handled personally by the researchers and with the help of research assistants. A total of 447 completed questionnaires were received. A response rate of 43.57 percent was achieved, and it was found to be significant in comparison with other research studies that used similar methodologies (Jonker, 2004).

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Validity and reliability

A valid methodology enables the measurement of what was actually desired (Coles & McGrath, 2010). The questionnaire was construct and face-validated by experts in capacity building and pre-tested by 5 lecturers. The participants were satisfied with the design of the questionnaire, finding it easy to answer and not too lengthy to complete. Reliability is the extent by which similar results can be obtained if the research was repeated (Coles & McGrath, 2010).

In this study, the internal consistency of the items measuring the respondents' perception on the identified capacity building factors was measured by calculating Cronbach's alpha for each subset of questions. The results of items on the factors of institutional training and development, performance and professional development, and academic competence gave rise to a reliability coefficient which ranged from 0.636 to 0.818, indicating a satisfactory level of internal consistency. Only the items relating to the assessments in the learning and developmental environment had a low alpha coefficient (0.562), reflecting the diverse nature of the questions in this subsection. With these figures, it was confirmed that the instrument was reliable enough in achieving the objectives set for the study.

Statistical analysis

The analysis of data was executed mostly in the form of frequencies, diagrams and cross-tabulations with the use of a Statistical Package for Social Sciences (SPSS 11.0). A principal factor analysis was performed. According to Garson (2008), principal factor analysis (PFA) is a form of factor analysis which seeks the least number of factors that can account for the common variance (correlation) of a set of variables; whereas, the more common principal components analysis (PCA), in its full form, seeks the set of factors that can account for all the common and unique (specific plus error) variance in a set of variables. A factor analysis was performed on the data in order to investigate construct validity. The KMO measure of sampling adequacy was 0.847 and Bartlett's test of sphericity was significant ($p<0.01$), indicating sampling adequacy.

Factor analysis was also used to investigate which factors contribute most significantly towards developing a framework for capacity building of academic staff in the polytechnics. The rationale behind the use of factor analysis was to reduce the large number of variables to a smaller number of factors. The Kaiser criterion suggested that eight factors could be extracted, explaining 53.34 percent of the variance. However, from the scree plot and magnitude of eigenvalues it would appear that there were two main factors, followed by six smaller ones. Subsequently, a factor analysis was performed using eight factors at first, followed by fewer factors. The most satisfactory solution amongst those explored was a four-factor solution, explaining 38.26 percent of variance.

Analysis of variance (ANOVA) was used to determine the differences in perceptions of the academic staff from different levels with regard to their capacity building. ANOVA is a technique used to investigate the differences between several subgroups for a single dependent variable and it also facilitates the assessment of group differences for several dependent variables simultaneously.

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RESULTS AND FINDINGS

The objective of this study was to explore the perceptions of academic staff on factors of capacity building in Ghanaian polytechnics. The results and major findings are discussed below.

Factor analysis of the study

A principal factor analysis was performed on the data in order to investigate construct validity, the grouping of items and their correspondence to the original theoretical scales. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was used in this analysis. The KMO measure of sampling adequacy was 0.847 and Bartlett's test of sphericity was significant ($p<0.01$), indicating sampling adequacy. The Kaiser criterion suggested that 8 factors could be extracted, explaining 53.34 percent of the variance. A factor analyses was subsequently performed using eight factors at first, followed by fewer factors. However, the most satisfactory solution amongst those explored was a four-factor solution, explaining 38.26 percent of variance. The complete factor solution is indicated in Table 1.

Table 1: Four-factor analysis results of the principal axis factor analysis

Question/item	Original Factors	Factor loading				Factor name
		1	2	3	4	
My polytechnic has appropriate institutional approaches for capacity building.	Performance enhancement	.770				Institutional development training and
My institution has capacity building programmes for developing teaching effectiveness.	Teaching and learning	.770				
My polytechnic provides opportunities for in-service training to update my teaching skills.	Teaching and learning	.701				
My polytechnic has research capacity building programmes.	Research and development	.687				
My institution has the necessary academic infrastructure that improves job performance.	Procedures improvement	.459				
I am hopeful of my long-term career development in this polytechnic.	Performance enhancement	.407				
My polytechnic has a clear set of values that inculcates in me a continuous learning culture.	Engagement	.403				
I am empowered by my institution to build on my capacity as a lecturer.	Engagement	.387				
My institution has instituted formal mentoring programmes to support the development of academic staff.	Professional enhancement	.300				

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My polytechnic encourages me to positively engage my students during lectures.	Engagement	.263				
Collaboration is beneficial to update my knowledge.	Engagement	.260				
I am motivated to collaborate with colleagues in building my research capacity.	Research and Development.					No loading
Capacity building programmes help to improve my performance as a lecturer.	Teaching and learning		.520			Performance and professional development
Training programmes enhance my professional development.	Teaching and learning		.469			
Inquiry team creates opportunities for me to share my research expertise with fellow lecturers.	Research and development		.425			
Sharing of teaching expertise enables me to develop work related knowledge.	Performance management		.411			
Continuous development programmes equip me with the requisite academic competence which enhances my performance.	Professional enhancement		.399			
Opportunities for active learning improve my teaching ability.	Teaching and learning		.319			
Research capacity building programmes help to improve my research expertise.	Research and Development		.275			
I frequently interact with my students to monitor their academic progress.	Engagement		.257			
Capacity building programmes enhance my communication skills for effective structural delivery.	Performance Management		.241			
I am capable to develop a curriculum to enhance employability of my students.	Procedures improvement			-.662		Academic competence
I am equipped with the requisite knowledge in my area of specialisation.	Performance management			-.607		
I integrate ICT learning strategies to support the diverse needs of my students.	Procedures improvement			-.499		
I am equipped with the necessary capabilities for effective performance.	Professional enhancement			-.493		
My polytechnic encourages me to share teaching expertise with colleague lecturers.	Performance management				.528	Learning and develop

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My polytechnic creates an enabling environment which enables me to build on my leadership capacity.	Procedures improvement				.433	
I receive constructive feedback to improve e my job performance.	Performance management				.388	
The leadership style of my direct supervisor motivates me to work at my best.	Procedures improvement				.354	
My polytechnic manages a collaborative learning culture among lecturers.	Research & Development	.277			.345	

As illustrated in Table 1, the items that scored high on each of the four factors were studied for common topics. The factors were labelled as "Institutional training and development (Factor 1), performance and professional development (Factor 2), academic competence (Factor 3) and learning and developmental environment (Factor 4)". It is was further observed that although the initial intended factors seem a bit different from the identified factors after the factor analysis was performed, the sub-factors from the theoretical research are all divided under the newly identified factors. Again, one specific item had no meaningful loading and was subsequently omitted from further analysis.

Figure 1 below shows the summary results of the descriptive statistics per the identified capacity building factors.

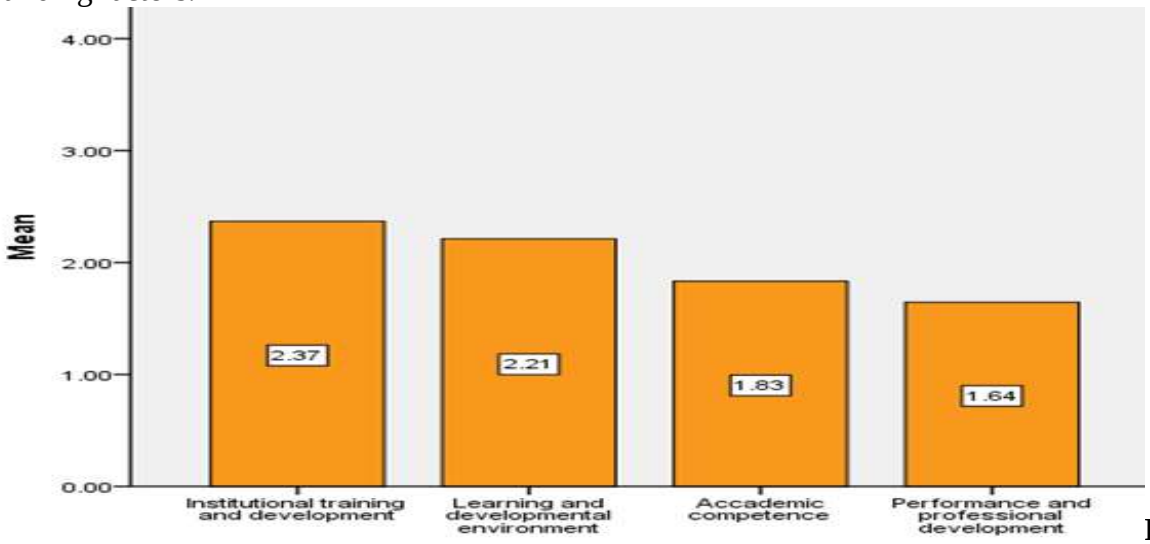

Figure 1: Mean score per factor – whole sample

As depicted by the mean plot in Figure 1, the performance and professional development and academic competence factors, with mean scores of 1.64 and 1.83 respectively, slightly tip over to the positive; indicating that academic staff strongly agreed (Likert-scale of 1 specify strong agreement) that both factors impact greatly on capacity building of academics. However, it can be stated that the respondents agreed that capacity building interventions in the polytechnics should address institutional training and

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development, performance and professional development, academic competence and learning and developmental environment factors.

A one-way ANOVA test was also used to examine the differences between the different designation groups and the four factors. The results are shown in Table 2.

Table 2: Descriptive results of the ANOVA for the different academic levels (Designation)

Descriptive									
						95% Confidence Interval for Mean			
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
Institutional training and development	Professor	12	2.6212	.40809	.11781	2.3619	2.8805	1.64	3.27
	Associate professor	27	2.2896	.38573	.07423	2.1370	2.4422	1.64	3.09
	Senior lecturer	186	2.3116	.40427	.02964	2.2531	2.3701	1.45	3.36
	Lecturer	172	2.3776	.39374	.03002	2.3183	2.4368	1.45	3.73
	Assistant lecturer	39	2.5445	.37818	.06056	2.4219	2.6670	1.82	3.09
	Total	436	2.3656	.40296	.01930	2.3277	2.4035	1.45	3.73
Performance and professional development	Professor	12	1.7870	.31233	.09016	1.5886	1.9855	1.11	2.22
	Associate professor	27	1.6543	.23738	.04568	1.5604	1.7482	1.11	2.00
	Senior lecturer	186	1.5865	.24613	.01805	1.5509	1.6221	1.00	2.22
	Lecturer	172	1.6892	.27482	.02096	1.6478	1.7306	1.11	2.44
	Assistant lecturer	39	1.6521	.25224	.04039	1.5703	1.7338	1.22	2.00
	Total	436	1.6426	.26390	.01264	1.6178	1.6675	1.00	2.44
Academic competence	Professor	12	1.6667	.37437	.10807	1.4288	1.9045	1.00	2.25
	Associate professor	27	1.6111	.38813	.07469	1.4576	1.7646	1.00	2.25
	Senior lecturer	186	1.7110	.39953	.02929	1.6532	1.7688	1.00	3.50
	Lecturer	172	1.8818	.39117	.02983	1.8229	1.9407	1.00	3.00
	Assistant lecturer	39	2.3013	.54766	.08770	2.1238	2.4788	1.25	3.00
	Total	436	1.8238	.44439	.02128	1.7819	1.8656	1.00	3.50
Learning and developmental environment	Professor	12	2.1500	.35291	.10188	1.9258	2.3742	1.60	2.80
	Associate professor	27	2.1333	.30884	.05944	2.0112	2.2555	1.80	3.20
	Senior lecturer	186	2.2047	.43427	.03184	2.1418	2.2675	1.20	4.00
	Lecturer	172	2.2217	.40727	.03105	2.1604	2.2830	1.20	3.60
	Assistant lecturer	39	2.2697	.32838	.05258	2.1632	2.3761	1.60	3.00
	Total	436	2.2113	.40562	.01943	2.1731	2.2495	1.20	4.00

Using the total means scores in Table 2, it can be said that all the different designation groups somehow agreed that all the factors contribute to capacity building of academic staff. The mean score of 2.3656 implies that the designation groups somehow agreed that institutional training and development contributes to capacity building. With the mean scores of 1.6426 and 1.8238, the groups agreed that performance and professional development and academic competence, respectively, are important capacity building factors. The groups agreed that the learning and developmental environment factor,

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with the mean of 2.2113, somehow contributes to capacity building. By extension, it appears all the different designation groups generally agreed that all the factors contribute to capacity building as seem from Table 2.

However, a closer look at the results revealed that there are significant differences between their levels of agreement (*inter alia*, some strongly agreed, while others agreed). The significant differences between the groups are presented in Table 3.

Table 3: **Results of the ANOVA test on the significant differences between the different Academic level**s

ANOVA						
		Sum of Squares	Df	Mean Square	F	Sig.
In situational training and development	Between groups	2.754	4	.689	4.372	.002
	Within Groups	67.880	431	.157		
	Total	70.634	435			
Performance and professional development	Between Groups	1.215	4	.304	4.504	.001
	Within Groups	29.078	431	.067		
	Total	30.294	435			
Academic competence	Between Groups	13.353	4	3.338	19.832	.000
	Within Groups	72.551	431	.168		
	Total	85.905	435			
Learning and developmental environment	Between Groups	.369	4	.092	.558	.693
	Within Groups	71.200	431	.165		
	Total	71.569	435			

From Table 3, it is evident that significant differences can be detected between the designation groups in the institutional training and development (Sig. = 0.002), performance and professional development (Sig. = 0.001); and academic competence (Sig. = 0.000) which are all less than 0.05. By implication, all the designation groups believe these factors significantly affect capacity building. However, the learning and developmental factor shows no significant difference (Sig. = 0.693) between the groups.

DISCUSSION OF FINDINGS

Results of the mean score depicted in Table 2 held that, on the scale of 1–4, where 1 was "strongly agree" and 4 "strongly disagree", the means scored for both institutional training and development (2.3684) and learning and developmental environment (2.2110) seemed to be less important to academic staff as they leaned slightly towards the negative, but were still in the range of an average mean score. This finding suggests that the academic staff did not agree much that these factors significantly affected capacity building as compared to the academic competence and performance and professional development factors. Further, the performance and professional development and academic competence, with mean scores of 1.6449 and 1.8328 respectively, slightly tipped over to the

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positive, indicating that academic staff strongly agreed that both performance and professional development and academic competence were important factors that affect capacity building in the polytechnics. That notwithstanding, it can be stated that the respondents agreed that capacity-building interventions in the institutions have to address institutional training and development, performance and professional development, academic competence and learning and developmental environment factors, but even more important were the performance and professional development and academic competence.

The findings of the study also identified capacity gaps such as fewer opportunities for career development, lack of funds, inadequate government support and lack of institutional arrangements for capacity building in the polytechnics. This can be attributed to poor funding which Ghanaian polytechnics have been grappling with over the years; a situation Gervedink Nijhuis *et al*. (2009) described as a reoccurring since their upgrading in 1992. The findings further revealed that male and female lecturers do not differ significantly in their perception of capacity building of academic staff in the polytechnics. It therefore follows that gender is not a factor in academic staff's perception on capacity building in the institutions. A plausible explanation for this finding is that male and female lecturers work in the same polytechnic environment, exposed to the same working conditions and the same polytechnic administration. Therefore, the provisions made available for male lecturers to participate in capacity building programmes are the same provision made available to their female folks.

The results of the factor analysis identified institutional training and development, performance and professional development, academic competence, and learning and developmental environment as factors that influence capacity building of academic staff. This finding is corroborated by the outcome of a study by Rivers (2005), cited in Ndebele and Maphosa (2014), which identified a number of activities in which tertiary institutions could engage to assist academic staff members to improve their teaching practice. The identified strategies include short training courses, academic work groups, peer evaluation, feedback and support, effective use of students' evaluation reports, and long-term teaching qualifications. The implication of the outcome of the factor analysis is that academic staff members expect capacity building interventions in the institutions to address institutional training and development, performance and professional development, academic competence and learning and developmental environment factors. The outcome of Egbo's (2011) study laid credence to this finding. She observed that academic environments that promote effective teaching and learning are those that are adequately equipped with educational resources and infrastructure. Addressing these factors as part of capacity building efforts would create an enabling environment that will promote teaching excellence in the polytechnics.

Results of the ANOVA indicate that all the different designation groups somehow agreed that all the factors contribute to capacity building of academic staff. With the mean scores of 1.6426 and 1.8238, the groups agreed that performance and professional development and academic competence, respectively, are the most important factors for capacity building. As part of the findings, significant differences exist between the designation groups and the institutional training and development (Sig. = 0.002), performance and professional development (Sig. = 0.001); and academic competence (Sig. = 0.000) factors, 0.05, but no significant difference between the groups and the learning and developmental factor (Sig. = 0.693) as a preferred factor for capacity building. Statistically, it can

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however be concluded that all the designation groups believe that these factors significantly affect capacity building.

The p values of less than 0.05 of the post hoc pair wise test detected four significant differences between the designation groups and the identified factors. There is a significant difference ($p = 0.027$) between the senior lecturer and assistant lecturer groups with regards to the institutional training and development factor. That is, the senior lecturer group feels that institutional training and development is less important to capacity building than to the assistant lecturer group, which is a logical deduction, as the latter group may still feel somewhat insecure without experience and a stronger academic background. The second significant difference is between the senior lecturer and lecturer groups and their perceptions on the performance and professional development factor ($p = 0.008$). The third and fourth significant differences are in relation to the academic competence factor. The senior lecturer and lecturer groups perceived academic competence as a little more important to capacity building.

Recommendations and managerial implications

Based on the findings of the study and the conclusion thereof, the researchers recommend that:

- policy-makers in Ghana be spurred into devising important strategies that would proactively respond to the current capacity-building challenges in the polytechnics.
- resources and infrastructure be provided to build capacity of staff in the polytechnics to enhance teaching and learning.
- evidence of competence in teaching and learning should form an integral part of policy on promotion and tenure in the polytechnics. This will ensure that the three tier issue of teaching and learning, research and community engagement is taken seriously with parity in the polytechnics.
- a staff development policy and appropriate institutional strategies for capacity building be designed and implemented in the polytechnics since capacity building alone may not yield the needed results.

Implications to research and practice

The main implications and contributions of this study are to policy makers and management of tertiary institutions in Ghana. By identifying factors that influence capacity building, this study was able to clarify to what extend capacity building influence the performance of academic staff members. This information contributes to the existing limited body of empirical studies on capacity building within the Ghanaian higher educational context and to the field of human resource management.

CONCLUSION

The objective of this study was to explore the perceptions of academic staff on factors of capacity building in Ghanaian polytechnics. We have attempted to draw attention to the fact that capacity building needs to be acknowledged as a vital staff development (HR) strategy. The study further identified capacity gaps in the polytechnics. Academic staff members' perception on capacity building is also significantly high with respect to the identified factors, and that significant differences exist between the demographic groups and the identified factors.

Based on these findings, the study concludes that building the capacity of academic staff members is critical to successful teaching and learning and that capacity building should be the starting point for

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the on-going transformation in Ghanaian polytechnics. Consequently, policy makers in Ghana be urgently spurred into devising important strategies that would proactively respond to the current capacity-building challenges in the institutions to revert systemic decline and under performance.
Moving forward, we have proposed some interventional strategies for helping academic staff members to improve their skills, knowledge-base and competencies. This involves simultaneously promoting research and innovation, providing the appropriate training and development programmes as well as the necessary funding and infrastructure. It is believed that building the capacity of staff in the polytechnics would engender growth, development and excellence within the entire education system in Ghana. With better-experienced academic staff members, Ghanaian polytechnics could become prime centres for academic excellence in the West African sub-region.

Recommendations for future studies

The researchers have identified the following as fertile ground for further research in capacity building: Research can be conducted to develop a framework to assist the polytechnics in capacity building of academics. An investigation of demographic influences on capacity building of academic staff at other higher institutions in Ghana could also be an important area of study in the future.

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