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IMPACT OF MENTORING PROGRAM ON FACULTY PERFORMANCE IN INSTITUTIONS OF HIGHER EDUCATION: A DEVELOPING COUNTRY STUDY

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Abstract:
Mentoring, as a social learning model, is based on the practice of broadly stressing the importance of positive reinforcement on behavior change (Bandura, 1977). Mentoring places emphasis on learning from other people through models of expected behavior norms (Mahoney, 1974; and Staats, 1975, Zachary, 2000). Social learning model finds strong relevance in building leadership skills among the disadvantaged to improve performance through synergy. In this study, the author defines mentoring as a process of consciously building a mutual relationship between two or more professional colleagues for the purpose of promoting personal and professional growth. The author investigates the impact of institutionalized mentoring program on the professional performance and growth of junior academic staff in a higher education institution in a developing country. The design used for this study was a mixed-method design. SPSS PAWS 18 and Amos 18 statistical analysis software were used to analyze the quantitative and qualitative data respectively. The mentoring program produced gains in all the three domains of performance for the participants in the mentoring program. The focus-group reflections corroborate the findings of the quantitative data. The study also identifies some of the challenges of the mentoring program. Leadership and policy implications were outlined and suggestions for improvements were noted.

Keyword: Mentoring, Performance, Higher-Education, Developing Country

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1.   INTRODUCTION

Mentoring, as a social learning model, is based on the practice of broadly stressing the importance of positive reinforcement on behavior change (Bandura, 1977). Mentoring places emphasis on learning from other people through models of expected behavior norms (Mahoney, 1974; and Staats, 1975). The central focus of mentoring is learning through knowledge and skills acquisition. The learning process requires that responsibilities be shared between mentee and mentor (Zachary, 2000). Mentoring is a process of consciously building a mutual relationship between two or more professional colleagues for the purpose of promoting personal and professional growth. The professional colleagues usually have differentials in knowledge, skills, and experiences in the practice of the trade. The more experienced and skilled professional (Mentor) guides and nurtures the less experienced (Mentee) to foster professional growth and development (Daresh, 2001). The actions in mentoring are focused on providing support through modeling, teamwork, questioning, observations, and critical constructive feedback. This allows practice-embedded professional development through synergy and leveraging of professional knowledge and skills at minimal cost to the organization.

1.1.   Relevance of Mentoring in the Context of a Developing Country

Most institutions of higher education (IHE) in developing countries have large populations of students and faculty with limited resources to provide individualized professional development training for faculty in the three essential domains of teaching, research-scholarship, and service. This can be expensive. New and junior faculty members often get lost in the system in terms of clearly understanding their roles, responsibilities, and performance expectations within the academia. Promotion and career growth prospects often become diminished leading to feelings of discontentment, low morale, frustration, attrition, financial and other opportunity-cost losses to the IHE.

The Context of the IHE of the Study
The study was conducted over a period of two academic years, (2010-2011 and 2011-2012) in a university located in Plateau State in the northern part of Nigeria, Africa. Picture 1 shows the location of Nigeria in Africa and the location of the IHE of study in Nigeria.

Picture 1: Location of the IHE of Study in Nigeria
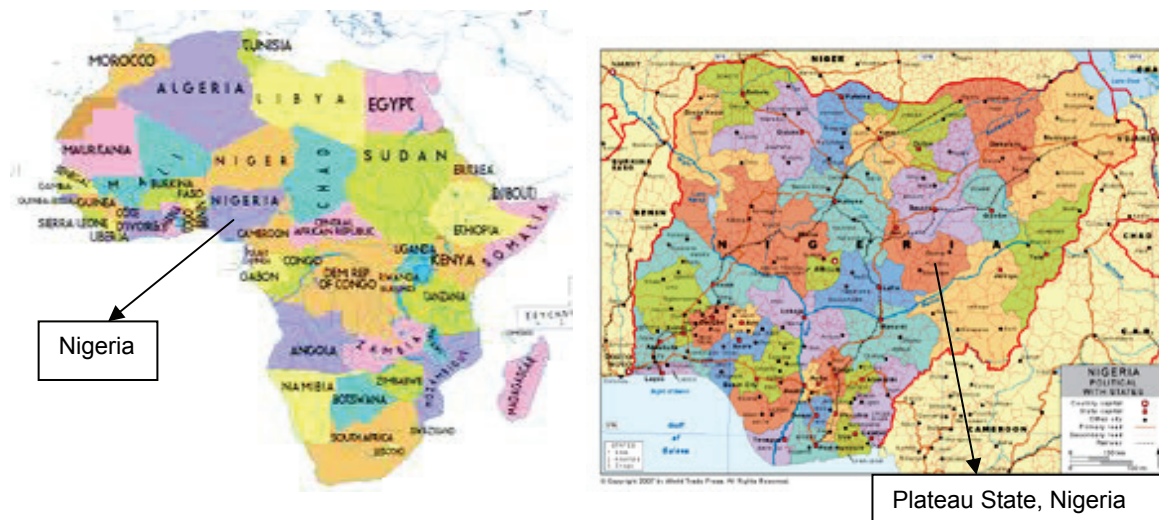
Source: Free Resources for Educational Excellence, US Department of Education, www.fee.ed.gov.

Nigeria is the most populous country in Africa with a population of over 170 million people (Nigeria National Population Commission, 2013). It is ranked 31st in world GDP with a Gross Domestic Product (GDP) of $413.4 Billion and per capital income of $1,500 per month (Nigeria National Planning Commission, 2012). This is why it is considered a developing country.

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Rationale for the Mentoring Program
The university where the study was conducted is one of the 34 universities funded by the Federal Government of Nigeria. It has a student enrolment of about 34,000 and offers academic programs in Medicine, Science, Mathematics, Law, Liberal Arts, and Business. Resources are limited relative to the size of university and the national economy. There is limited funding for professional development for faculty and staff. Like in any university in the world, faculty performance and promotion is based on meeting acceptable performance in the domains of Teaching, Research-Scholarship, and Service.

New and junior faculty members have limited opportunity to get research and professional development funding from the university. Opportunities for grant funding are also limited; outside of occasional grant funding from the Federal Government of Nigeria and international organizations. For example, the funding for this study is a joint partnership between Carnegie Foundations of New York and the University of Jos, Nigeria. In most instances, faculty have to use personal resources to fund own research and development. This imposes unfair disadvantage on the prospects for promotion for new and junior faculty. The mentoring program was set up to provide a form of in-house professional development opportunity for faculty, as an alternative.

The Board Goals for the Mentoring Program
The Mentoring Program was set up to:
1. Improve performance of new and junior faculty in the critical areas of Teaching, Research-Scholarship, and Service.
2. Support new and junior faculty, who have no terminal degrees, to earn their terminal degrees.
3. Create a pool of future mentors for the university.
4. Create a pool of eligible faculty for higher academic and leadership positions.

Purpose of Study
The Purpose of this study is to evidence the impact of mentoring program on the performance of faculty an higher education institution in a developing country.

2. THEORETICAL FRAMEWORK

Mentoring, as a social learning model, is based on the practice of broadly stressing the importance of positive reinforcement on behavior change (Bandura, 1977). As a social learning model, mentoring combines cognition with reinforcement of stimuli in the process of learning from other people. As a social learning approach, mentoring finds strong relevance in building leadership skills among the disadvantaged and in situations where resources for professional growth and development are limited. Mentoring places emphasis on learning from other people through models of expected behaviors and norms (Mahoney, 1974; and Staats, 1975). The central focus of mentoring is learning through knowledge and skills acquisition.

In mentoring, as a social learning model, mentors and mentees must be synergistically aware of their mutual behavior expectations (Razik & Swanson, 2010). In a social learning context, the use of both formal and informal organizational structures is very important. The formal organization structure helps to shape the objectives for meeting required standards of performance for the organization. The informal structure focuses attention on observation of the actions, norms, practices, values, and the general organizational and personal climate needed to support and enhance performance.

Various approaches can be used to establish a mentoring program (Green, 2010). Since Green, classification of mentoring approaches has evolved to include one-to-one mentoring, peer mentoring, team mentoring, group mentoring, and e-mentoring. In the one-to-one mentoring process, one mentor works with one mentee. In peer mentoring, a mentee works with one or more mentors who are a peers in the profession. Team mentoring involves a team of two or more mentors working with one or more mentees. In group mentoring, one mentor works with a group of mentees. E-mentoring is the product of the virtual learning age; where mentoring is done remotely using appropriate assistive technology and electronic social media. This study used a blend of the group and team mentoring approaches.

2.1. Research Questions

The following were the research questions this study set out to answer:

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1. How has the mentoring program helped participants to articulate their growth needs in Teaching, Research-Scholarship, and Service?
2. To what extent did the mentoring program enhanced the growth of the participants in Teaching Research-Scholarship, and Service?

3. REVIEW OF LITERATURE

The word mentoring originated from the Homers' Greek mythology, *Oddyssey*. Odyseus went to war with the Trojans and left his son Telamachus under the guidance of his friend Mentor who took good care of him until his return. Mentor's name has since become synonymous with someone who guides, teach, and encourage a less experienced person (Wilson & Elman, 1990). Mentoring describes the process by which a more experienced, and often older person, acts as a guide, role model, and sponsor to a less experienced mentee. During the mentoring process, the mentor provides the mentee with appropriate and relevant knowledge; advice; challenge; counsel; and support about career opportunities, organizational strategies, policy and politics in the organization (Hughes, Ginnett, & Curphy, 2012).

McPartland (1985) described the role of the mentor to include advising, teaching, providing feedback, exposure, sponsorship and rehearsing the strategies needed to navigate the terrain of the professional environment. Different types of roles are possible for the mentor in the mentoring process to include advisor, teacher, guide, parent, spiritual guru, gatekeeper, friend, or peer ((Gardiner, Grogan, & Enomoto, 2000). During the mentoring process, the responsibility for the mentee's learning is shared; priorities are enumerated; accompanying activities are developed; and needed resources secured (Zachary, 2000).

In this study, the author defines mentoring as a process of consciously building a mutual relationship between two or more professional colleagues (peer, more experienced, older, or superior) as co-learners for the purpose of promoting personal and professional growth.

4. METHODOLOGY

The design for this study was a mixed-method research approach that combines quantitative and qualitative methods. This design taps on the strengths of both quantitative and qualitative designs (Cresswell, 2005). The quantitative design allows large data to be collected and analyzed statistically to provide concise and relevant information relating to the outcome of the study. The qualitative components, such as interviews and focus groups discussions, add more detailed perspectives to better informs the inferences from the quantitative aspect.

4.1. The Mentoring Program

The mentoring program started in 2010 with 56 participating mentees and 11 mentors. The mentees who were encouraged to be part of the program were new and junior faculty from different colleges in the university with four or less years of service. The mentors were senior professors from the corresponding colleges. The mentoring program was established using a blend of the group and team mentoring approaches. Each mentor was assigned one or more mentees, depending on the number of mentees from the related college. Each mentor-group was limited to four mentees. Mentors and mentees were also charged with the responsibility to seek guidance, assistance, advice, and support from any of the mentors across college. Each mentor then became team mentor by default.

The mentoring process involved (1) Identification and articulation of gaps in the mentees' professional practice and prospects; (2) Identification and articulation of the strengths and weaknesses of both mentors and mentees; (3) The development of goals and outcome expectations for each mentee in the mentoring program; (4) Clear articulation of the actions steps needed to achieve the goals; (5) Formal agreement of commitment between the mentor and each of their respective mentees to work on the actions steps; (6) Professional development trainings in research methodology; pedagogy; research report writing, presentation, and publication.

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4.2. Instrumentation, Sampling, and Focus Group Discussion

An evaluative instrument was developed by the researcher to solicit data on pre-post performance measures of the mentees on each of the three main domains of Teaching, Research-Scholarship, and Service. Each domain contained appropriate elements that address relevant performance criteria for performance (see Appendix). Each element under each domain was assigned a percentage weight based on the effort formula used in annual performance evaluation by the university.

The instrument was circulated among the 56 mentees and 11 mentors for critical examination for validity and reliability. Comments and suggestions for improvement were collected accordingly and used to revise and refine the instrument. The instrument was administered on the participating mentees at the start of the program. This constituted the pre-mentoring score for each mentees on each element in the three domains.

Forty-four (N=44) out of the 56 mentees who started the mentoring program were the convenient sample for the study. These were the ones who were conveniently available, at the end of the two years of the program, to take part in the post-program administration of the instrument.

Recorded open-ended and free-range reflective interview conversations were also conducted with the 44-sample-mentees to solicit their thoughts on the mentoring program and to reinforce the pattern of the results from the analysis of the quantitative data.

5. RESULTS

Pre-post Weighted Performance Indices (WPI) were calculated for each criterion using the formula:
$$WPI = (PW \times PS)/100$$
Where: P = Percentage Weight assigned to each criteria; PS = Performance Score on each criteria.
Average Gain Index (AGI) on each criterion was calculated using the formula:
$$AGI = \sum(WPI2 - WPI1)/N$$
Where: WPI2 = Post WPI; WPI1 = Pre WPI; N=sample size.
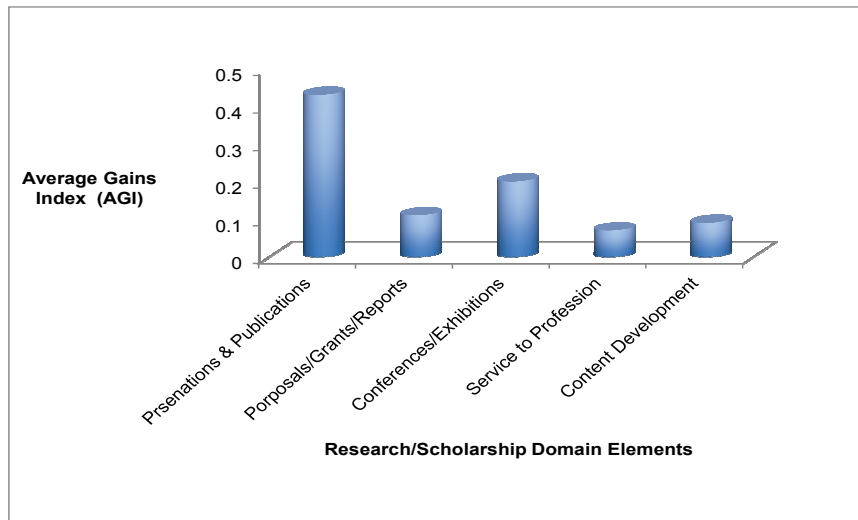
5.1. Descriptive Statistics of Pre-Post WPI

Figure 1 presents the AGI in each of the criteria under the Teaching performance domain. Gains were made in all the elements under the Teaching domain with the highest gain made in Intuitional Delivery criteria followed by Content Knowledge. The least gain was in Advising and supervision.

Figure 1: Average Gains Index (AGI) for Elements under Teaching Performance Domain
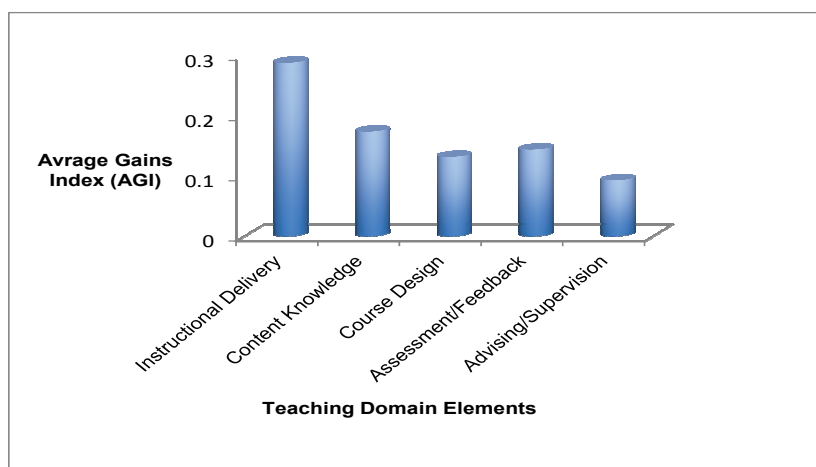
As shown in Table 2 below, there were gains in all the performance elements under Research/Scholarship. The greatest gains were made in the area of Presentations/Publications followed by Conferences/Exhibitions. Service to the profession only showed very modest gain.

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Figure 2: Average Gains Index (AGI) for Elements under Research/Scholarship Domain

There is high variability in the AGI index for Research/Scholarship domain. The AGI in Presentations and Publications (0.48) was four times higher than that for content development.

Figure 3 indicates the AGI for the performance elements under the Service domain.

Figure 3: Average Gains Index (AGI) for Elements under Service Domain
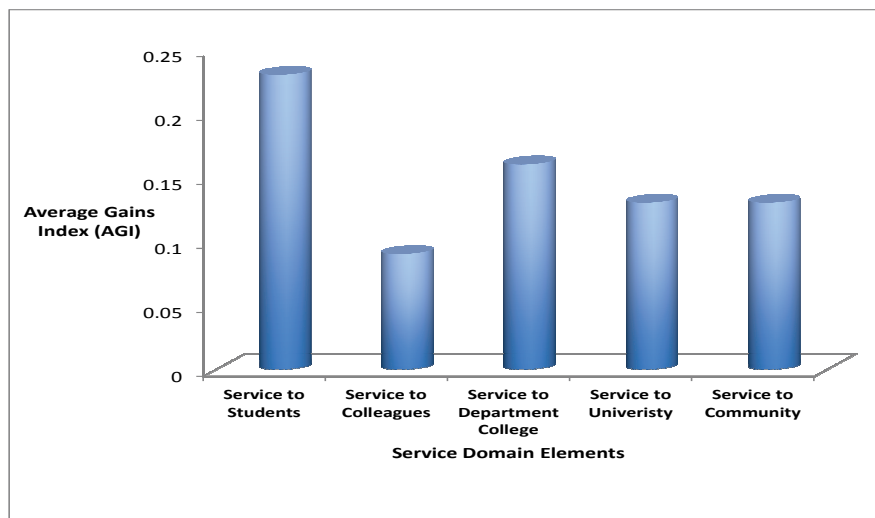
5.2 Analysis of Differences in AGI Means between Domains

Analysis of Variance (ANOVA) was performed using SPSS PAWS 18 to test the significance of the differences in the means of AGIs between the three main domains of Teaching, Research-Scholarship, and Service. Table 1 shows the summary of the ANOVA.

Table 1: ANOVA Test of Differences in the Means AGI Between the three Domains of Performance

Domain	M (SD)	F	Significance ($\alpha = 0.05$)
Teaching	0.173 (0.088)	2.183	0.050*
Research/Scholarship	0.187 (0.108)	1.986	0.076
Service	0.174 (0.071)	2.535	0.026**

Note: N = 44. *p = 0.050, **p = 0.026*

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The mean of AGI in the Teaching domain was significant (M = 0.0173, $F_{(43)}$, p=0.050). The mean of AGI (M) in the Service domain was highly significant (M = 0.026, $F_{(43)}$, p=0.026). The mean of AGI (M) in the Research/Scholarship domain was not significant (M=01.187, $F_{(43)}$, p=0.076).

5.2. Dimensional Analysis of Qualitative Focus Group Discussions

The focus-group interview discussions were analyzed for dimentionality (representativeness) on the three domains and their respective elements using PAW 18 statistical software by SPSS. The results are summarized in Table 2.

Table 2: Qualitative Results with Representative Reflective Quotes

Domains	Criteria Dimension	Dimensional Reflective Quotes from Mentees
Teaching	Instructional Delivery, Content Knowledge, Course Design, Assessment/Feedback to Students, Advisement/ and Supervision.	"I think the area I have seen significant improvement is in the Teaching domain, especially in 'Instructional Delivery' criterion. The training we received on pedagogy equipped me with new teaching skills to reach my students more effectively". "I improved on the quality of feedback to my students. My mentor was particular about this and gave me examples on what quality assessment and feedback should look like"
Research & Scholarship	Presentations & Publications, Grants Proposals & Reposts, Conferences & Exhibitions, Performances, Workshops and Seminars.	"In the university the slogan is *'publish or perish'*. My mentor reinforced this to me all the time and provided opportunities for me to attend conferences. I was able to publish two papers in peer-reviewed journals during this mentoring program". "Opportunities for grant-writing are very limited in scope and size. The mentoring program has provided training in research methodology and report writing. I urge the university to produce a directory of grant sources for us to begin to actively seek funding for research and scholarship".
Service	Service to Students, Service to Colleagues, Service to Department/College, Service to University, Service to Larger Community.	"Before this Mentoring Program, I was ignorant of the Service performance domain as one of the criteria for career growth in the university. My focus was on teaching and research. The program has helped to re-focus my attention on providing service to students especially for the freshmen classes I teach. I have also taken service to my Department and College more seriously".

6. CONCLUSION

The domain that appears to gain the most attention, among the mentees in the Mentoring Program, is the Teaching domain. For new and junior faculty, this is a very important domain. During the early years in academia, teaching skills are stressed in the evaluation process until mid-career when faculty are deemed to have established and mastered the art of teaching in a university environment. Participants paid particular attention to this domain as evidenced by the relatively low variability among the constituent elements. The training they received in Pedagogy also helped in sharpening their knowledge and skill in this domain. Attention was particularly paid to the 'Instructional Delivery' element in this domain. The gains were consistent across all the elements in this domain.

The high variability within the elements in the Research-Scholarship domain is a very revealing finding. The priority of the mentees was highly skew towards the 'Presentations and Publications' criterion. This may be due to many reasons. First, as stated by the mentors, the *'publish or perish'* innuendo is always a daunting phase in academia, especially in research universities in developing countries. This may have resulted in the desire of the mentees and mentors to pay particular attention to this criterion element. Second, opportunities for grant-proposal writing are limited in terms of

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knowledge and actual sources of funding thus freeing up time to devote to 'Presentations and Publication'. This may be why most of the publications are on scholarship rather than on actual primary and empirical research. Third, the element of content development is traditionally reserved for senior professors, by default. Mentors might have either felt that this is a 'no-go' area for the new and junior faculty in the Mentoring Program, or that the mentees do not yet have adequate knowledge and skill to handle this performance criterion effectively.

The Service domain showed the lowest gain. The gains showed less variability among the criteria. Of particular notice is the 'Service to Students' criterion, which showed the highest AGI. This may be linked to improved performance of the mentees in the 'Instructional Delivery' criterion under the Teaching domain. Improvements in attention to students' needs may result in improvements in teaching.

In conclusion, as stated by the mentees, the Mentoring Program has benefited the participating mentees in most of the areas considered important to performance and career growth in the university.

6.1.   Limitations and Future Directions

Some of the limitations of this study are worthy of note. First, this study may not be generalizable to all mentoring situations in IHE. It is specific to context of the university of study in a developing country. Second, not all the participants who started the mentoring program completed it. The focus-group conversation did not include these participants who may have a different opinion about the program and why they did not complete it.

The study did not include the dimension of the Mentors. This is an area the researcher is currently working on. The study also needed to be taken further longitudinally to determine the longer-term impact on the participants, in particular, and the university in general. The researcher plans to continue work in this area. Further studies are needed in other developing countries for the purposes of comparative knowledge.

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