

Towards Improvement of Student Learning Outcomes: An Assessment of the Professional Development Needs of Lecturers at Kenyan Universities

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Abstract

The aim of this study was to explore the professional development needs of lecturers at Kenyan universities. Specifically, the study investigated the challenges that lecturers and their learners face while in class. It also explored the professional development needs of the lecturers, preferred modes of delivery of the professional development programs and changes that lecturers need to effect in their practice of teaching in order to improve student learning outcomes. The study was guided by two theories: Andragogy and Situated Cognition. The sample size comprised 15 lecturers from one public university in Kenya. Data was collected using the semi-structured interviews. Data was transcribed and analyzed using thematic coding including, four areas of professional development needs: pedagogy, subject matter, technology and research. The study found that in order to enhance student learning outcomes, lecturers need to adopt a more student-centered approach, embrace seminar way of teaching, use practical approaches, be ICT compliant and create and teach courses which offer learners significant learning experiences. The lecturers prefer both face-to-face and online as modes of delivery for professional development programs.

Keywords: Student learning outcomes, professional development needs, lecturers at Kenyan universities

1.0 Background to the Study

Fullan (1995) defines professional development as the sum total of formal and informal learning pursued and experienced by the teacher in a compelling learning environment under conditions of complexity and dynamic change. Guskey (2000) identifies four key components of effective teacher professional development programs. They are: a focus on learners and learning; emphasis on individual and organizational change; vision guiding small changes and ongoing development that is procedurally embedded in day-to-day work. Additional components include: content that reflects awareness of all learners, use of diagnostic assessment data, and differentiation of processes in recognition of the professional learning strengths and needs of teachers (Tomlinson, 2005). Mizell (2010) explains that the professional development of academics includes both formal and informal processes and activities that are carried out within and outside an organization to improve the teaching practices, knowledge and skills of participants.

There are numerous changes taking place in the environment that make it mandatory for teachers to engage in lifelong learning. These include; technology (e-learning, online simulation, gamification), pedagogy and curriculum and the increasing diversity of students in higher education (Burns&Lawrie, 2015; Organization for Economic Co-operation and Development [OECD], 2014; Mc Lean, Cilliers & Van Wyk, 2008). In addition to this, Altbach, Reisberg & Rumbley (2009) note that the growing mobility of students and educators and the increasing access to higher education has led to students with various prior knowledge, learning styles, and readiness to learn being placed together in the same classroom.

In Kenya, education and training is expected to be the principal catalyst towards the realization of the social pillar in the Vision 2030 blue print (Republic of Kenya, 2007). There is a great reliance on education and training to create a sustainable pool of highly trained human resource capital that will help underpin the national ambition of being a knowledge-based economy (Mukhwana et al, 2016). For this to happen, there must be lecturers who possess up-to-date skills and knowledge in order to transfer quality education to the future generations of human resources. The lecturers can only acquire these through continuous professional development programs.

Despite professional development being important for lecturers, there exists a paucity of literature on the same in Kenya. Most studies have focused on the challenges that have come about as a result of reduced state funding to universities, liberalization, massification and marketization of higher education in the country (Munene, 2015; Ogeto, 2015; Kimathi & Embeywa, 2014; Nyangau, 2014; Nganga, 2013; Kipkoech&Boit, 2012; Otieno, 2012; Gudo&Olel, 2011). The challenges include overcrowding in lecture halls and halls of residence, high lecturer-student ratios, scarcity of laboratory equipment, library and instructional facilities. Unfortunately, while other students' learning issues are well spelt out in the institutions' policies, lecturers' learning to teach has been disregarded in national policies and in the planning of most institutions, as it is assumed that academic qualifications are sufficient (Oanda, Chege & Wesonga, 2008; Otiende, 2006).

The issue of lecturers' professional development has not been accorded considerable attention yet it has an effect on the quality of higher education programs offered. The quality of academic staff is the key to the quality of the university. There will be no quality without qualified and competent staff (Inter-University Council for East Africa, 2010). In a bid to improve the quality of lecturers in Kenya, the Commission for University Education (CUE) has directed all public universities to make sure all lecturers have doctoral degrees by November 2018. The Commission also plans to phase out part time teaching. The role of continuous professional development in improving quality of lecturers has not been emphasized as compared to the doctoral degree. Academic qualifications alone cannot make one an effective teacher. With the technological advancements happening currently (computer assisted teaching and learning) and the internalization of higher education (students from different backgrounds and cultures), lecturers need to possess relevant skills and knowledge to effectively discharge their duties.

This study has explored lecturers' professional development needs with a view to making practical suggestions on how to improve lecturers' knowledge and skills of teaching and consequently students' learning outcomes. This will be of use to the universities' arm responsible for human resource development and policy makers at large. The findings present evidence-base/context-specific information for designing professional development programs in Kenyan universities. Quinn (2012) observes that lecturers are differentially situated in terms of the material resources available in universities and faculties and therefore specific institutional research is necessary. The study also contributes to the existing body of literature on professional development of faculty.

2.0 Theoretical Framework

This study was guided by Knowles (1984) theory of Andragogy (adult learning) and the Situated Cognition theory (Brown et al. 1989). Knowles makes five key assumptions about adult learners. First is the self-concept. As a person matures his /her self-concept moves from one of being a dependent personality toward one of being a self-directed human being. Second is the adult learner experience: as a person matures he/she accumulates a growing reservoir of experience that becomes an increasing resource for learning. The third assumption is the readiness to learn: as a person matures his/her readiness to learn becomes oriented increasingly to the developmental tasks of his/her social roles. Fourth is the orientation to learning: as a person matures his/her time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly his/her orientation toward learning shifts from one of subject-centeredness to one of problem centeredness. Lastly is the motivation to learn: as a person matures, the motivation to learn is internal (Knowles 1984: p.12). Lecturers are adult learners. They have an intrinsic motivation to grow professionally and hence the professional development needs. If their professional development needs are met, then they can be able to apply them in resolving the challenges they experience at the workplace. This theory was useful in designing the research questions, analyzing and interpreting results and making recommendations.

Knowles (1984) also identifies four basic principles that guide Andragogy. First, adult learners need to be involved in the planning and evaluation of their instruction. Secondly, the need to provide experience/task oriented learning. Thirdly, adults are interested in learning subjects that have immediate relevance and impact to their job or personal life. Finally, adult learning is problem-centered rather than context-oriented. These four principles were used to describe the previous professional development programs that the lecturers had attended. A second theory, Situated Cognition by Brown et al. (1989) was used. This is because the theory of Andragogy does not explain how learning occurs at the workplace. According to this theory, learning is social, collaborative and embedded in working situations; as a result, knowledge is negotiated, constructed and situated (Brown et al. 1989; Webster-Wright, 2009). Situated Learning and Cognition theories hold that experienced professionals can share their explicit knowledge and guide novice teachers into the exploration of different techniques, as in an apprenticeship relationship (Van Ginkel, Verloop & Denessen, 2015). This theory is closely related to other theories which describe how teachers learn. These include: Communities of Practice (Lave & Wenger, 1991) and Vygotsky (1978) Social Development theory. This theory acted as a guide in describing the nature of previous professional development programs attended and also future programs.

3.0 Methods and Study Process

This was a descriptive qualitative study. A total of 15 lecturers/respondents from one public university participated in the study (five females and 10) males. The participants were randomly selected. They were from different disciplines and also at different stages of their careers. According to Wiersma & Jurs (2009), a random sample is unbiased, i.e. individuals selected vary only as they would due to random fluctuation, and is representative of the population from which it was selected. The respondents' were approached individually and requested to participate in the study. The purpose of the study was made known to them. The researcher stated clearly that the intention of the study was not to judge their teaching capabilities but rather a professional needs assessment that would serve as a reference point in future for professional development programs. The participants were assured of confidentiality of their responses. To guarantee them anonymity, they were allowed

to choose pseudonyms.

Data was collected using semi-structured, face-to-face interviews. Face-to-face interviews provide greater flexibility in conducting the interview and they can accommodate more complexity and length (Wiersma & Jurs, 2009). The interviews were conducted in the lecturers' offices. The respondents scheduled the interview sessions at a time that was convenient for them. During the interview sessions, the researcher took notes. She also observed the participants' non-verbal communication cues and working environment. Interviews were audio recorded and later transcribed. After transcription, the interview transcripts were taken back to the respondents to confirm whether that is actually what they said. On average, the interviews lasted for thirty five minutes. The interviews were conducted over a span of one month, January 2017.

Thematic coding was used to analyze the data. The purpose of the data analysis is to organize the interviews to present a narrative (Rubin & Rubin, 1995). The researcher looked out for commonly occurring themes and grouped them together. The demographic data of respondents is summarized and presented in table 1 below.

Table1: Respondents' Demographic Data (* pseudonyms have been used)

Respondent	Gender	Area of Specialization	Highest qualification	Teaching Experience (Years)	Professionally trained to teach
Mary	Female	Languages	Masters	6	Yes
Joshua	Male	History	Masters	3	Yes
Nathaniel	Male	Curriculum & Instruction	Doctoral	5	Yes
Anna	Female	Finance	Masters	4	Yes
Ethan	Male	Parasitology & Entomology	Doctoral	7	No
Peter	Male	Animal Science	Masters	7	No
Moses	Male	Agricultural Extension	Masters	8	Yes
Jane	Female	Animal Science	Masters	8	No
Jeff	Male	Human Nutrition	Masters	3	No
Dan	Male	Agricultural Economics	Masters	4	No
Bob	Male	Agricultural Extension	Masters	6	No
Stella	Female	Aquaculture	Masters	2	Yes
David	Male	Nutrition	Masters	1	Yes
Mercy	Female	Aquatic Ecology	Doctoral	6	Yes
Morris	Male	Mathematics	Doctoral	9	Yes

Data was analyzed using the key propositions of Andragogy, Knowles (1984) and Situated Cognition (Brown et al, 1989) theories. In accordance to Andragogy, all respondents were adult learners with varied years of teaching experience. The theory was useful in analyzing and describing previous professional development programs that the lecturers had attended. It also guided the exploration and identification of their current professional development needs. The Situated Cognition theory on the other hand, also guided the analysis of the nature of past development programs i.e. how learning occurred. It was also helpful in categorizing and describing the type of modes of delivery that lecturers preferred for delivering of the professional development programs.

4.0 Findings

4.1 Professional Development Courses attended in the recent past

Findings indicated that 10 participants had attended professional development courses in the recent past whereas 5 had not. The courses covered the following topics: online teaching, teaching methods, measurement and evaluation, career development, public relations, financial management, preparation of lesson plans, teaching methods, proposal development, value chain in aquaculture and blended learning. The courses respondents attended were provided by lecturers from the university's school of Education and a Non-Governmental organization (NGO). None of the participants was involved in choosing the topics to be covered. According to Caffarella & Daffron (2013), professional development opportunities should meet the specific needs of faculty members in the organization, which is possible through a conscientious evaluation of their needs and preferences. It is clear that the participants were not involved in choosing the content for the professional development programs and hence a mismatch between what they needed and what was offered.

Asked whether the professional development programs offered were helpful in addressing the challenges the lecturers faced while teaching, one of the respondents Mary, who recently attended a program on e-learning, said this:

"It provided a way of blending teaching, but the training wasn't hands-on therefore I still haven't grasped how to use it."

The training was too theoretical in nature, rushed and did not allow participants to practice the skills

they had been taught. This finding is similar to Bladergroen et al's (2012) who established that even though educators had received training in the use of technology to support teaching, most still felt that the training they received was not adequate. Darling-Hammond et al (2009) found that participation in itself is not sufficient, as short-duration programs have been criticized for failing to produce tangible changes in teachers practice. Long and sustained programs with several opportunities to experiment and reflect have produced better results.

4.2 Challenges lecturers and learners face in class while teaching

Respondents identified the following as problems that their learners faced during the teaching –learning process: lack of adequate instructional facilities, poor note taking skills, congestion in classrooms, over-relying on lecturers' notes, difficulties in accessing learning materials and lack of individual attention due to the large class size. According to one participant, Ethan:

“The students are just too many in class. Some cannot even find chairs to sit. Those seated at the far back have difficulties hearing what the lecturer is saying. Majority of students don't know how to take notes. They just sit and look at you...”

The congestion in lecture halls is one of the undesired effects of the unplanned, rapid expansion of higher education in Kenya. According to Mukhwana et al (2016), the impact of the 2003 Free Primary Education (FPE) has been felt at the university level, where enrolment numbers have more than doubled between 2012 and 2015 during which the initial cohort of FPE were enrolled in universities.

The challenges lecturers face include: large class size, students who are not committed/motivated to learn, heavy workload, inadequate instructional facilities, student indiscipline, class management, inadequate technical staff in laboratories, vandalized power accessories, evaluation of students, poorly ventilated lecture halls, difficulties in content delivery due to limited knowledge of subject matter. Joshua said:

“It is difficult to maintain discipline. The classes are too big. Difficult to handle them and ensure effective teaching takes place. Evaluating their level of understanding is almost impossible especially for the big classes.”

Mwiti, Ngunjiri & Muchira (2009) noted that lecturers faced challenges such as student diversity, large classes and the demands of industry and professions. Effective learning cannot take place in overcrowded lecture halls characterized by inadequate instructional facilities and lecturers with limited content knowledge of the subjects they teach. This greatly affects the quality of programs and graduates produced.

4.3 Professional Development Needs of Lecturers

The professional development needs of lecturers were put into four broad categories i.e. teaching methods/pedagogy, subject matter, technology and research.

4.3.1 Teaching Methods/Pedagogy

This included the desire to learn how to: teach effectively for long hours, cover syllabus in time; use online teaching/e-learning; prepare e-learning material; teaching methods appropriate for university students; motivating students to learn; test construction; and teaching and management skills suitable for large classes. Moses needed training on:

“...how to carry out a good lesson for three hours, test and evaluation, lesson plans...”

Wanzare & Ward (2000) found that unlike teachers in primary and secondary schools in Kenya, lecturers in higher education are not trained to teach. Those who are trained to teach either pursued a bachelor's degree in Education or a postgraduate diploma in Education (PGDE). They then taught at primary schools, secondary schools or middle level colleges. Teaching is an art that should be learnt and consequently, academic credentials on their own are not sufficient to make one a professional lecturer. They need to have a thorough knowledge of the subject matter as well as the teaching methods in order to ensure effective learning takes place. Shava (2015) contends that professional development should be considered in higher education as it has effects on the university teaching staff since most of them do not have teaching qualifications and they tend to teach the way they were taught. Professional development programs are therefore necessary for lecturers because they contribute to development of teachers' pedagogical and technical skills, and lead to enhanced student achievement (Shaha, 2015; Avalos, 2011; Vescio et al, 2008).

4.3.2 Subject Matter/Content Knowledge

Professional development needs related to the specific subjects and areas of responsibility e.g. human resource and project management, administration (how to supervise and relate with colleagues) Psychology, curriculum development (skills required when developing new academic programs), professional counseling. As Joshua confessed:

“I have difficulties in delivering the content since I have limited knowledge in my area of specialization.”

Another respondent Jane, wanted the training to cover:

“The animal technology and their working principles. The workshop should highlight on the best-bet

animal technologies (breeding, feeds and feed manufacturing industry) which livestock farmers can adopt to improve livestock performance for better livelihoods.”

Knowledge of the subject as well as how to deliver it is really important in teaching (theory-practice relationship). To maintain their teaching effectiveness, faculty members need to update their skills and knowledge regularly (Burns & Lawrie, 2015; Liu, 2015). This is really important in ensuring the university produces quality and competent graduates. According to Mukhwana et al (2016), university education in Kenya is meant to contribute to national development through high level manpower training. This cannot happen unless the lecturers have a deep knowledge of the subject matter they teach. Universities are required by the Universities Act (2012) to promote the highest standards in quality of teaching and research. Graduates produced reflect the quality of higher education provided and hence calls for universities to be accountable. Burke (2005) describes the accountability triangle which includes: academic concerns, market forces and state priorities. Market forces occupy the apex of the triangle. He argues that state priorities represent political accountability; academic concerns reflect professional accountability and market forces push market accountability (p.22). Lecturers are at the center of academic concerns and therefore they need to be knowledgeable in their areas of specialization in order to deliver the desired learning outcomes.

4.3.3 Information Communication Technologies (ICTs)

The third category comprised needs pertaining to technology. Information and Communication Technologies (ICTs) is a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. This broad definition of ICTs includes technologies such as radio, television, video, DVD, telephone, satellite systems, computer and network hardware and software; as well as the equipment associated with these technologies, such as video-conferencing and electronic mail (UNESCO, 2002). Afari-Kumah & Tanye (2009) observe that academia does not seem to be abreast with current trends in ICTs. All participants said they needed training on how to incorporate Information Communication Technologies (ICTs) in teaching. They also needed basic training on how to handle instructional equipment in the lecture halls e.g. projectors. Mary said:

“I need practical/hands on knowledge on how to use computers to teach.”

Oye, Isahad & Ab.Rahim (2012) contend that the failure to use technology by many academics in lesson delivery should be of great concern. Talk and chalk is the most popular way of teaching at Kenyan universities. The lecturer talks as students listen and take notes. He/she occasionally writes a few words or draws diagrams on the blackboard.

Kenya has not fully integrated the use of ICTs at all levels of its education. Balasbramanian & Clarke-Kah (2009) reiterate that the success of ICT-based education depends upon the teacher's ability to keep pace with the developments since teachers are responsible for quality control, improvement of learning and the aggregate effectiveness of the learning process. As Jung (2005) notes, ICTs are innovative technologies that have provided new possibilities to the teaching profession and at the same time have placed more demands on teachers to learn how to use these new technologies in their teaching.

4.3.4 Research

The last category of professional development needs was in the area of research. This included: proposal development, data analysis, academic writing, how to secure research grants and how to effectively and efficiently manage research grants. Komba & Nkumbi (2008) emphasize that professional development provides academics with opportunities to explore new roles, develop new instructional techniques, refine their practice and broaden themselves, both as higher education educators and individuals. The need for professional development in research is an individual need. They desire to grow in their careers as academics. In order to get a promotion in Kenya, lecturers are supposed to have the required degree, supervised a given number of postgraduate students, taught for the stipulated number of years and undertake research and publish. For example to become a professor, one is required to have at least ten publication points since attaining associate professorship. He/she must also have attracted research funds (CUE, 2014).

The state reduced its funding to public universities and hence lecturers have to look for alternative sources of funding like grants which are awarded through a competitive process. This makes it mandatory for them to have good proposal writing skills in order to win the grants. After winning the grants, the lecturers also need good financial management skills for them to utilize the money effectively for the intended purpose because at the end they will be held accountable. They also need sound data analysis skills to analyze, present and interpret the findings. Lastly they need academic writing skills to write good journal articles. Universities in Kenya are supposed to create advance knowledge through teaching, scholarly research and scientific investigation (Universities Act, 2012). Lecturers are therefore obliged to undertake research. Students also undertake research and they require the expert advice from their lecturers. Moses had this to say:

“Undergraduate students conduct a lot of research and therefore knowledge of data analysis is a must.”

The lecturers need research skills in order to guide their students appropriately on issues related to

research.

4.4 Preferred Methods of Delivery of the Professional Development Programs

Out of the 15 participants interviewed, only two preferred the face to face mode of delivery of the professional development programs whereas the rest wanted the blended type (online and face to face). Those who preferred face to face delivery argued that it provided a way of varying the learning stimuli; reducing monotony because in a classroom, the trainer can change activities and hence make learning interesting. This mode of delivery was also more interactive as opposed to the online one. Those who preferred the mixed mode of delivery said that online learning saves time because it involves little movement. They have heavy workload and therefore may not have time to attend classes. They preferred face to face learning because it was more effective and a hence a combination of the two methods would be more suitable for them. Currently in Kenya, there exists a dire shortage of staff. The high-staff student ratios being experienced in universities present a daunting challenge to the teaching faculty as a whole. For example, Education Science has a ratio of 1:200 which is above the UNESCO recommended ratio of 1: 30 (Mukhwana et al, 2016). This situation makes it difficult for lecturers to attend a purely face-to –face delivered professional development programs. It implies that some classes would go untaught. Consequently, a mixed mode of delivery would be more appropriate.

4.5 Changes Lecturers need to Effect to Enhance Student Learning Outcomes

To become more effective lecturers, respondents acknowledged that they needed to institute some changes in their practice. This would enhance learning outcomes. First they needed to adopt a more student-centered approach. The one being used was too instructional in nature. The lecturer dominated the lesson; students played a passive role. The lecturers would now like to ask questions to see whether students have grasped the concepts taught. Secondly, embrace the seminar way of teaching where emphasis is laid on oral exams/presentations. This would help reduce reproduction of lecture notes during written exams and also gauge whether students can interrelate the various topics offered in a given course unit. It would also help students develop self-confidence and perfect presentation skills. Thirdly, they said that they needed to be more practical in their teaching i.e. use more demonstrations in the kitchen and laboratories. This would equip the learners with the practical skills needed for industry. Learners would learn by doing. As Nathaniel put it, “*students would be actively involved in knowledge construction and not just consumers of information.*”

Fourthly, they wanted to be ICT compliant and use it in their teaching; use projectors, prepare learning materials and mount them online. Choudhary & Choudhary (2013) insist that innovative teaching strategies are vital in higher education courses if it is to engage and motivate the newer tech-savvy generation. Joshua demonstrated this:

“They relate to technology best- so they will find it easier.”

They wish to use blended learning i.e. partly face to face and partly online. They hoped to use the differentiated mode of instruction. ICT is potentially a powerful tool for extending educational opportunities and can provide remote learning resources. It encourages students to take responsibility of their own learning and offers problem centered and inquiry based learning which provides easy access and information based resources. It is necessary to acquire the ability to use technology as a tool to research, organize, evaluate and communicate information (Krishna, 2007). Fifthly, create an e-platform from where they can regularly communicate with students. Lastly, create and teach courses which offer learners significant learning experiences and achieve intended outcomes.

5.0 Discussion

Findings indicate that majority of the lecturers had attended professional development programs in the recent past. Learners faced challenges such as lack of adequate instructional facilities, poor note-taking skills, congestion in classrooms, over-relying on lecturers’ notes, difficulties in accessing learning materials and lack of individualized attention due to the large class size. Lecturers on their part faced challenges of large class sizes, students who are not committed/motivated to learn, heavy workload, inadequate instructional materials, student indiscipline, class management, inadequate technical staff in laboratories, vandalized power accessories, evaluation of students, poorly ventilated lecture halls and difficulties in teaching due to limited knowledge of the subject matter and teaching methods appropriate for university students.

This study singled out four categories of professional development needs i.e. teaching methods/pedagogy, subject matter, technology and research. Theoretically, lecturers had the need and intrinsic motivation to acquire relevant skills and knowledge as expressed by the theory of Andragogy (Knowles, 1984). Their orientation to learning was problem centered as they wanted to address some of the challenges they were experiencing while teaching. The new knowledge is to be applied immediately in the context of their academic responsibilities. However the previous professional development programs they had attended had contravened two underlying principles of Andragogy: need for adults to be involved in planning and evaluation of their

instruction and need for task-oriented learning. First, this is because they were not involved in choosing and designing the programs. Chances are that what they were offered is not actually what they needed. Secondly, there was limited time for practice and that is why the lecturers could not apply fully the skills they learnt. If the participants cannot fully apply what they learnt in their daily practice, then it means the previous professional development programs did not attain the desired impact.

In previously attended programs, the basic ideas of the Situated Cognition theory were applied. The facilitators of the programs were mainly lecturers from the faculty of Education. They shared their expert knowledge on pedagogy with their colleagues from other faculties. This is known as collaborative learning, one of the key propositions of the Situated Cognition theory. Learning did not only involve the lecturers and their students but also experts from other faculties and non-governmental organizations. In future, lecturers wish to have their professional development programs delivered using both face-to-face and online modes.

6.0 Recommendations

This study makes five recommendations. First, all lecturers who are not trained to teach should be given training on pedagogy. This would ensure effective teaching and learning takes place. For those already trained, they need refresher courses on current methods of teaching. Secondly, universities should facilitate lecturers to attend professional development programs. After attending the programs, universities should create a suitable environment for those who attended the programs to practice their skills and share it with colleagues (train-the-trainer model). This should also have a bearing on promotion (be recognized) in order to motivate the lecturers to attend such sessions.

Thirdly, before conducting any professional development program, universities should first carry out a needs assessment. This would ensure that the programs are tailor-made to suit the needs of the faculty. Fourthly, in addition to internal professional development programs, universities should also have programs offered by external bodies. They should also make the programs more appealing, holistic and practical intensive. Universities should update lecturers on every new teaching technology that emerges. Lastly, for newly recruited lecturers (novice), they need to be inducted and mentored by senior staff for them to be more professional in discharging their duties.

7.0 References

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