TRAINING NEEDS OF POLYTECHNICS ELECTRICAL/ELECTRONIC TECHNOLOGY LECTURERS IN KWARA AND NIGER STATES

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Abstract

The study was designed to identify the training needs of electrical/electronic technology lecturers in Kwara and Niger state polytechnics. The study adopted a cross sectional survey research methods. The population of the study was 95 electrical/electronic technology lecturers in four polytechnics in Kwara and Niger state. Four research questions and two hypotheses guided the study. The instrument used for data collection was 67 items questionnaire. The research instrument was validated by three experts in the field of electrical/electronic technology. The reliability of the instrument was carried out using Cronbach Alpha formula and the reliability co-efficient was found to be 0.75. The data was analysed using mean and standard deviation to answer the research questions while t-test statistics was used to test the hypotheses at 0.05 level of significance. The study found out that electrical/electronic lecturers need training in the identified cognitive, psychomotor, affective and entrepreneurial skills to improve their performance in teaching. The study further revealed that there was no significant difference in the mean ratings of the responses of male and female polytechnic Electrical/Electronic lecturers on the perceived importance and expressed performance of relevant skills and knowledge in electrical/electronic technology. Consequently, it was recommended among others that the National Board for Technical Education and Polytechnics Administrators should provide training opportunities for polytechnics lecturers on perceived importance and expressed performance of relevant skills and knowledge identified as important and performed.

Introduction

Training is of paramount importance in every field of human endeavour, particularly in the field of vocational and technical education. Training is needed by lecturers to update their knowledge and skills on the subject they teach. Ibli (1994) suggested that government should be actively involved in both pre-service and training programme for lecturers. Based on this background, every electrical/electronic lecturer should be ready to update and renew his knowledge, skills on the subject matter and teaching strategies. Okwubunka (1994) asserted that a teacher will soon decay if the teacher is not constantly exposed to new ideas and trends in the profession.

As the teaching profession aligns with reform efforts; educators need to be aware of current legislative requirements, workplace standards, and relevant curriculum concepts to employ in their instructional practices within the classroom. In fact, Boser and Daugherty (1994) stressed that advancing the profession forward required providing lecturers with updated information on curriculum, methodology, and technology to allow them to make philosophical and programmatic changes that augment technology education. One method to provide information to teachers is through professional development activities. Recent research has emphasized that professional development activities must assist teachers in understanding subject matter, learners and learning, and teaching methods (Duncan, Ricketts, Peake, &Uesseler, 2006; Daugherty, 2009). However, to best increase teachers' levels of instructional competency, professional development activities should meet the needs of the teachers (Munby, Russell, & Martin, 2002).

Muktar (2014) observed that Electrical/Electronic technology graduates need occupational skills such as cognitive, psychomotor, affective and entrepreneurial skills in order to function effectively in world of work and teachers of electrical/electronic technology need to acquaint themselves with these skills in order to effectively impact them into their students. Cognitive skills in electrical/electronic are the mental capabilities needed to successfully teach academic subjects. Olatoyibo and Alawode (2005) pointed out that cognitive skills are important in the development, manufacture and application of a wide variety of electrical devices, circuits, systems, products and equipment. Basic cognitive skills must function well to efficiently enable Electrical/Electronic technology lecturers to read, think,

prioritize, understand, plan remember and solve problems as it related to teaching (Kofoworola, 2003). Psychomotor skills are skills in which the processes involved are primarily muscular or are described in grandular or muscular terms (Onwuka, 2009). These skills enable Electrical/Electronic technology lectures to use standard and specialized laboratory instruments to conduct experiments and report on them; design, construct test and evaluate electrical circuits and computer system. Affective skills on the other hand, are described as non-technical abilities, employability skills and work ethics (Atsumbe and Saba, 2008). Affective objectives typically target the awareness and growth in attitudes, emotions and feelings. Ogwo cited in Atsumbe and Saba (2008) described affective skills as ways of feelings and general behaviour which reflect an individual values, emotions, motives and interest. Electrical/Electronic technology lecturers need these skills couple with entrepreneurial skills in order to impart the work skills requirement, ethic of work values and business skills in their students. Entrepreneurial skills enable Electrical/Electronic technology lecturers to create commercialization plan for technological innovation. Most, if not all of these skills are best refined in practice. Entrepreneurial skills are important to electrical/electronic lecturers because it will enable them to build in their students life skills for success within innovative, product-focused, cross-disciplinary terms.

In the recent times, the gender factor has assumed prominence in science, vocational and technical education discourse. It has been documented that disparity exists between male and female students participation in these disciplines. However, the participation of women in Technology Education has increased tremendously over the last decades and now is significant in most developed and many developing countries. In spite of the growth in the number of women in the field of vocational and technical education, female participation rate in technology related fields is systematically lower than male participation rate. Dyankor, cited in Owoso, (2009) however, noted that in some countries in conformity with certain traditions, technical and vocational education is regarded predominantly for boys only and that attempts are being made to facilitate girls' attendance in technical and vocational institutions.

In Nigeria, unlike other countries, the retraining of polytechnic lecturers has not

received the desired attention from the governments. There has not been any systematic attention to update regularly the knowledge and skills of Lecturer in the light of changes in curriculum and wider society as a result of technology and inventions (Sharehu, 2009). This neglect is common in all Nigerian Polytechnics which has in turn affected the quality of teaching especially in technology courses in polytechnics. Apart from neglect of retraining of lecturers, most of the lecturers do not possess the pedagogy of teaching and therefore need to be retrained. Osuala, (1990) asserted that Vocational and technical teachers should undergo retraining in order to take care of deficiencies noticeable in the programme. This will also enable the teachers to acquire necessary skills for effective communicationin the classroom and to others outside classroom environment (Uwaifo and Uwaifo, 2009).

Based on the above context, this study sought to determine the perceived importance and expressed performance of relevant teaching skills and knowledge in Electrical/Electronic technology by Polytechnic lecturers in Kwara and Niger state as they relate to the cognitive, psychomotor, affective and entrepreneurial activities involved with teaching and learning of the course.

Purpose of the Study

The purpose of this study was to determine the training needs of Polytechnic Electrical/Electronic Lecturers as far as knowledge and skills and the degree of expressing them in the classroom is concerned. Specifically, the study sought to determine:

1. The necessary perceived importance and expressed performance of relevant knowledge and skills by Polytechnic Electrical/Electronic technology lecturers in cognitive skills
2. The necessary perceived importance and expressed performance of relevant knowledge and skills by Polytechnic Electrical/ Electronic technology lecturers in psychomotor skills
3. The necessary perceived importance and expressed performance of relevant knowledge and skills by polytechnic Electrical/Electronic technology lecturers in affective skills
4. The necessary perceived importance and expressed

performance of relevant knowledge and skills by polytechnic Electrical/Electronic technology lecturers in entrepreneurial skills

Research Questions

The following research questions were formulated to guide the study.

1. What is the perceived importance and expressed performance of relevant knowledge and skills by polytechnic Electrical/Electronic technology lecturers in cognitive skills?
2. What is the perceived importance and expressed performance of relevant knowledge and skills by polytechnic Electrical/Electronic technology lecturers in psychomotor skills?
3. What is the perceived importance and expressed performance of relevant knowledge and skills by polytechnic Electrical/Electronic technology lecturers in affective skills?
4. What is the perceived importance and expressed performance of relevant knowledge and skills by polytechnic Electrical/Electronic technology lecturers in entrepreneurial skills?

Hypotheses

HO_1: There is no significant difference between the mean responses of male and female Electrical/Electronic Technology Lecturers on perceived importance of relevant skills and knowledge on cognitive, psychomotor, affective and entrepreneurial in electrical/ electronic technology

HO_2: There is no significant difference between the mean responses of male and female Electrical/Electronic Technology Lecturers on expressed of performance of relevant skills and knowledge on cognitive, psychomotor, affective and entrepreneurial in electrical/ electronic technology

Methodology

The design of the study was cross sectional survey research design. The study was carried out in all the 4 polytechnics in Kwara and Niger states. The population for this study comprised all the 95 (84 male and 11 female) Electrical/Electronic lecturers in the polytechnics. The instrument used for data collections was a structured questionnaire. A four point Bipolar scale of perceived importance and expressed performance was assigned to the

questionnaire on the four identified areas where training is needed. The perceived importance section of the bipolar scale were of four sub-scales of very important; important; averagely important, and of little importance. The expressed performance section of the bipolar scale was equally of four corresponding sub-scales of highly performed; performed; of average performance, and of little performance. A four point rating of 4 points; 3points; 2 points, and1point were assigned to each of the perceived importance/expressed performance subscales as shown-.

1. Very important/Highly performed 4 points
2. Important/ Performed 3 points
3. Averagely important/Performed on the average 2 point
4. Little importance/Performed a little 1 point

The instrument was subjected to face validation by three experts in field of Electrical/ electronic Technology. Cronbach alpha formula was used to establish the reliability of the instrument and the reliability coefficient was found to be 0.85. The data collected was analysed using mean and standard deviation to answer the research questions. The data collected from the study were analyzed on the basis of the research questions guiding the study. Weighted Average responses were used to answer all the research questions. Any item with the mean of 2.50 and above were considered important/ performed, while item with mean of less than 2.50 were regarded as not important/not performed.

Results

Research Question 1

Table 1: *Mean Ratings of polytechnic* Electrical/Electronic technology *lecturers on their perceived Importance and Expressed Performance of relevant Knowledge and Skills in cognitive skills. N=95*

S/N	Item Statement	Perceived Importance		Expressed Performance	
		Mean	Remarks	Mean	Remarks
1.	Knowledge of the principles of electrical power quality	3.18	Important	1.60	Not Performed
2.	Monitoring of electrical power quality such as economic damage effects on equipment and process operations.	3.22	Important	1.70	Not Performed

3.	Monitoring techniques needed for the improvement of electrical power quality.	3.13	Important	1.33	Not Performed
4	Description of power quality problems in industrial installation, such as voltage sags, harmonics interruptions and high frequency noise	3.25	Important	1.39	Not Performed
5	Knowledge of the effect of voltage sag on the quality of electrical power and several industrial equipment	3.37	Important	1.58	Not Performed
6	Interpretation of the specification of monitoring instruments, such as sampling rate, accuracy, resolution, anti- aliasing filter etc	3.15	Important	1.56	Not Performed
7	The common causes of voltage sag in induction motors	3.16	Important	2.56	Performed
8	Definition of quantities used in electric power systems und non –sinusoidal conditions	2.96	Important	2.10	Not Performed
9	Identification of various ways of obtaining sag magnitude from the rms voltage	2.86	Important	2.23	Not Performed
10	Calculation of flux estimation from the motor voltage and current measurement	3.14	Important	2.31	Not Performed
11	Identification of sources of errors in induction motor voltage and current measurement	3.14	Important	2.22	Not Performed
12	Description of the principles of generating constant starting torque	3.23	Important	2.96	Performed
13	Description of the acquisition of various flux linkages from terminal frequency such as voltages, currents and position.	3.15	Important	3.26	Performed
14	The processes of obtaining an electric torque to close the torque control loop	3.35	Important	2.11	Not Performed
15	Description and principle of operation of ultimate band (umb) technologies utilizing different modulation	2.86	Important	1.61	Not Performed

	techniques , such as orthogonal frequency division multiplexing (OFDM), and pulse- based method.				
16	Description of uwb and umb antennas using different schemes and their uses	2.91	Important	1.21	Not Performed
17	Knowledge of cannel coding and its influence in optimization of ultra wide band antenna	3.33	Important	1.61	Not Performed
18	Static and dynamic properties of a wireless sensor	3.16	Important	2.76	Not Performed
19	Various communication techniques used by wireless sensors, such as wi-fi , Bluetooth , zig-bee etc	3.34	Important	2.83	Not Performed
20	Description of various network topologies, such as star, ring bus, tree etc	3.32	Important	1.81	Not Performed
	Grand Mean	*3.15*	*Important*	*2.00*	*Not Performed*

The data presented in Table 1 show that all the items were perceived very important by the lecturers as the mean ratings of the items were above the cutoff point of 2.50.This implies that the lecturers agreed with all the items as important relevant knowledge and skills on cognitive skills in electrical/ electronic technology. Table 1 also reveals that most of the items had their mean ratings on express performance less than 2.50 which are regarded not performed. However, items 7, 12, 18 and 19 had their mean rating above the cut off point of 2.50. This implies that these relevant knowledge and skills on cognitive skills in Electrical/Electronic Technology are performed by lecturers. The Grand Mean of 3.15 and 2.00 respectively indicated that all the items were perceived important and not performed by the Lecturers.

Research Question 2

Table 2: Mean Ratings of lecturers on their perceived importance and expressed performance of relevant Knowledge and Skills in psychomotor skills. N=95

S/N	Item Statement	Perceived Importance		Expressed Performance	
		Mean	Remarks	Mean	Remarks
1	Appropriate use of various instrument in monitoring electrical power quantity, such as digital fault recorders (DFR) Power meters, oscilloscope flicker meters etc	3.47	Important	1.42	Not Performed
2	Coordinating the selection of monitoring location depending on the facility design, critical loads, power conditioning equipment and the specific objective of the monitoring	3.26	Important	2.44	Not Performed
3	Interpretation of instrument used for recording of signal and disturbance level	3.24	Important	1.34	Not Performed
4	Rectification of various problems related to power quality in industrial installation, such voltage sags, harmonics interruptions and high frequency noise	3.28	Important	2.73	Performed
5	Installation of fast protection devices to prevent faults in transmission and distribution systems	3.33	Important	1.35	Not Performed
6	Replacement of voltage sag monitor for a monitoring program	3.24	Important	1.28	Not Performed
7	Selection of appropriate tools and material for specific jobs	3.43	Important	1.45	Not Performed
8	Troubleshooting and rectifying the interface unit in soft starter	3.27	Important	2.37	Not Performed
9	Identification, inspection and cleaning of various induction motor parts and components	3.25	Important	2.10	Not Performed
10	Designing various compact, high gain ultra wide band antenna	3.34	Important	2.03	Not Performed
11	Application and description of materials for antenna construction such as hacksaw, drill, tubing cutter, tubing bender, standard file soldering gum etc	3.36	Important	1.85	Not Performed
12	Configure wireless router	3.43	Important	1.67	Not Performed
	Grand Mean	*3.33*	*Important*	*1.84*	*Not Performed*

The data presented in Table 2 show that all the items had their mean ratings above cut off on the perceived importance. This implies that the Electrical/Electronic lecturers agreed with all the items as important knowledge and skills on psychomotor skills in electrical/ electronic technology. Also on this table, the mean rating on the expressed performance is between 1.42 and 2.44 which is below cut off point of 2.50. An indication that all the relevant knowledge and skills on psychomotor in Electrical/Electronic technology are not performed by lecturers. The Grand Mean of 3.33 and 1.84 respectively indicated that all the items were perceived important and not performed by the Lecturers

Research Question 3

Table 3: Mean Ratings of Lecturers on their Pperceived Importance and Expressed Performance of relevant Knowledge and Skills on affective skills in Electrical/Electronic Technology. N = 95

S/N	Item Statement	Perceived Importance		Expressed Performance	
		Mean	Remarks	Mean	Remarks
1	Ability to manage work time effectively.	3.33	Important	1.44	Not Performed
2	Application and maintenance of health and safety rules in an electrical working environment.	3.39	Important	1.66	Not Performed
3	Respecting the ideas of colleagues.	3.29	Important	1.55	Not Performed
5	Displaying a professional commitment to ethical practice	3.36	Important	1.46	Not Performed
6	Participating actively with full commitment and cooperate with others.	3.46	Important	1.79	Not Performed
7	Working in self directed manner and able to guide others.	3.37	Important	2.48	Not Performed
8	Ability to justify design principles towards sustainability	3.38	Important	1.66	Not Performed
9	Recognizing the value of good personal appearance, hygiene and demeanor in the workplace.	3.45	Important	1.83	Not Performed
10	Assessing and evaluating own performances to identify areas for improvement.	3.35	Important	1.63	Not Performed

11	Expressing feelings and ideas in appropriate manner for workplace.	3.11	Important	1.71	Not Performed
12	Ability to demonstrate appropriate care and use of equipment, materials and facilities prudently	3.23	Important	1.89	Not Performed
13	Exhibiting appropriate work habit and positive attitude.	3.22	Important	1.83	Not Performed
14	Ability to demonstrate dependable attendance and punctuality	3.12	Important	1.65	Not Performed
15	Ability to apply personal lifelong learning practices to individual situation.	3.26	Important	1.45	Not Performed
16	Analyzing the relationship of personal value and goals to work ethics both in and out of the workplace.	3.45	Important	1.57	Not Performed
17	Ability to demonstrate honestly and trustworthiness.	3.36	Important	1.91	Not Performed
	Grand Mean	*3.13*	*Important*	*1.63*	*Not Performed*

The data presented in Table 3 show that all the items were perceived very important by the lecturers as the mean ratings of the items were above the cutoff point of 2.50.This implies that the lecturers agreed with all the items as important affective skills in electrical/electronic technology. Table 3 also shows that all the items had their mean ratings on express performance less than 2.50 which are regarded not performed. However, item 7 had its mean rating above the cut off point of 2.50. This implies that this relevant knowledge and skill on affective skills in Electrical/Electronic Technology are performed by lecturers. The Grand Mean of 3.13 and 1.63 respectively indicated that all the items were perceived important and not performed by the Lecturers.

Research Question 4

Table 4: Mean Ratings of lecturers on their Pperceived Importance and Expressed Performance of Knowledge and Skills on entrepreneurial skills in Electrical/Electronic Technology.N = 95

S/No	Item Statement	Perceived Importance		Expressed Performance	
		Mean	Remark	Mean	Remarks
1	An understanding of technician profession and ethical responsibility.	3.45	Important	1.64	Not Performed
2	Ability to make a business proposal involving multimedia technology	3.29	Important	1.65	Not Performed
3	Recognition of the need for, and an ability to engage in lifelong learning.	3.33	Important	1.35	Not Performed
4	An ability to communicate and persuade effectively.	3.24	Important	1.68	Not Performed
5	Ability to lead and work effectively as a member of team	3.45	Important	1.54	Not Performed
6	Ability to be aware of global markets and competitions	3.33	Important	1.61	Not Performed
7	Demonstration of management skills and strong business sense	3.28	Important	1.46	Not Performed
8	Ability to think critically and creatively as well as independently and cooperatively	3.25	Important	2.97	Performed
9	Ability to identify factors that contributes to the success/failure of a small business	3.33	Important	2.76	Performed
10	Ability to compare personal interest and skills with those necessary for entrepreneurship	3.35	Important	1.53	Not Performed
11	Ability to analyze cost/risk/prospect opportunity	3.36	Important	1.36	Not Performed
12	Ability to identify a complete plan for marketing product showing consideration of supply and demand, market availability and advertising worldwide products	3.46	Important	2.81	Performed
	Grand Mean	***3.43***	***Important***	***1.90***	***Not performed***

Table 4 revealed that all the items were perceived very important by the lecturers as the mean ratings of the items were above the cutoff point of 2.50.This implies that the lecturers agreed with all the items as important relevant knowledge and skills on entrepreneurial skills in electrical/electronic technology. Table 1 also shows that all the items had their mean ratings on express performance less than 2.50 which are regarded not performed. However, items 8, 9and 12 had its mean rating above the cut off point of 2.50. This implies that this relevant knowledge and skill on entrepreneurial skills in Electrical/ Electronic are performed by Electrical/ Electronic lecturers. The Grand Mean of3.43 and 1.90 respectively indicated that all the items were perceived important and not performed by the Lecturers.

Hypotheses

Table 5: ***t-test Analysis of the Mean Responses ofmale and female Electrical/Electronic Technology lecturerson perceived importance and expressed of performance of relevant knowledge and skills on cognitive, psychomotor, affective and entrepreneurial in electrical/electronic technology***

S/N	Item Statement Skills and knowledge	Perceived Importance $\bar{X}1$	$\bar{X}2$	SD_1	SD_2	t-cal.	RM	Expressed performance $\bar{X}1$	$\bar{X}2$	SD_1	SD_2	t-cal	RM
1	Cognitive	3.12	3.20	0.87	0.93	0.27	Accept	2.00	2.08	0.71	0.68	0.37	Accept
2	Psychomotor	3.26	3.37	0.81	0.78	0.44	Accept	1.84	1.88	0.65	0.69	0.18	Accept
3	Affective	3.15	3.11	0.45	0.78	0.17	Accept	1.55	1.67	0.71	0.78	0.49	Accept
4	Entrepreneurial	3.31	3.37	0.78	0.81	0.23	Accept	1.81	1.87	0.67	0.58	0.32	Accept

*Note: t-tab. 1.98; df = 93; * t-Cal Significant at 0.05 level of significance;*

$\bar{X}_1$ =Male lecturers; SD_1 = standard deviation of the responses of male lecturers; $\bar{X}_2$ = mean responses of female lecturers; SD_2 = standard deviation of responses of female lecturer

Data presented in Table 5 shows that all the items on the perceived importance and expressed of performance had their calculated t-value less than Table t-value of 1.98 at 0.05 level of significance and 93 degree of freedom. This implies that there was no significant difference

between the mean responses ofmale and female electrical/electronic technology lecturers on perceived importance and expressed of performance of relevant skills and knowledge on cognitive, psychomotor, affective and entrepreneurial in electrical/ electronic technology

Discussion

The data presented in Table 1 provided answer to research question 1. Findings revealed that all the respondents agreed that all the items on cognitive skills such as Knowledge of the principles of electrical power quality, Monitoring of electrical power quality such as economic damage effects on equipment and process operations, Monitoring techniques needed for the improvement of electrical power quality are important relevant knowledge and skills needed by Polytechnic Electrical/Electronic Lecturers for effective teaching while they are not performed by the lecturers in Electrical/Electronic Technology. This finding is in agreement with the findings of Mukhtar (2014) who carried out a study on occupational skills required by electrical/electronic Engineering graduates of Universities for effective performance in industries and discovered that Electrical/electronic Engineering Graduates need cognitive skills for them to effectively perform in the industries. Invariably, the lecturers also need these skills to effectively impact them on their students. Kofoworola (2003) asserted that Basic cognitive skills must function well to efficiently enable electrical/ electronic technology lecturers to read, think, prioritize, understand, plan remember and solve problems as it related to teaching. Olatoyibo and Alawode (2005) also reported that cognitive skills are essentials in the development, manufacture and application of a wide variety of electrical devices, circuits, systems, products and equipment and Electrical/Electronic lecturers must acquaint themselves with these since they are the one that will impart the knowledge and skills in to the students. Therefore, they need training on cognitive skills to enable them function effectively in the classroom.

This urgent need for training of Polytechnics Electrical/Electronic Lecturers on psychomotor skills is also noticeable in Table 2. While the respondents agreed that some items from this table are very important as relevant knowledge and skills on psychomotor in Electrical/Electronic Technology required by the lecturers, they only performed on the average and a little which means that the mean ratings are less than

2.50. To this end, it is important to note that training is inevitable in these areas. This is very important as Osuala (1990) pointed out that vocational and technical teachers should undergo retraining in order to take care of deficiencies noticeable in the programme. Uwaifo and Uwaifo, (2009) suggested that Technical teachers must be highly trained and acquire enough skills in other to make them capable of communicating their skill to others effectively. Grisby (2001) pointed out that there are several reasons for an electrical engineering or technologist to be grounded on practical skills in electrical power quality. As a result adequate psychomotor skills are needed by Polytechnic Electrical/ electronic lecturers to enable them impart same on their students.

Furthermore, analysis of results in table 3 revealed that Polytechnics Electrical/Electronic Lecturers need training on affective skills. The respondents agreed that some items from this table are very important as relevant knowledge and skills on affective in Electrical/Electronic Technology required by the lecturers, However, the items were performed on the average and a little which means that the mean ratings are less than 2.50. Recent research has emphasized that professional development activities must assist teachers in understanding subject matter, learners and learning, and teaching methods (Duncan, Ricketts, Peake and Uesseler, 2006; Daugherty, 2009). However, to best increase teachers' levels of competency, professional development activities should meet the needs of the teachers (Munby, Russell, and Martin, 2002).

The data presented in Table 4 provided answer to research question 4. Findings revealed that all the respondents agreed that all the items on entrepreneur skills are important knowledge and skills needed by Polytechnic Electrical/ Electronic Lecturers to enable them effectively teach electrical/electronic technology. However, they performed and performed a little in some of the items. This finding is in line with the findings of Owodunni and Hassan, (2014)on Competencies Needed by Vocational and Technical Teachers towards the Development of Entrepreneurial Skills in Students and argued that entrepreneurial competency is needed by teachers to enable them develop it in their students.

Lastly, table 5 revealed that there was no significant difference between the mean responses ofmale and female electrical/electronic technology lecturers on perceived importance and expressed of

performance of relevant skills and knowledge on cognitive, psychomotor, affective and entrepreneurial in electrical/ electronic technology. Therefore, the polytechnic electrical/electronic lecturers who were the supposed custodial of knowledge and skills must possess these relevant knowledge and skills and also perform them before they can impart into their students All the relevant knowledge and skills have implications for polytechnic lecturers for electrical/electronic technology students.

Conclusion

The findings of this study contribute to the identification of perceived training needs/priorities of polytechnic Electrical/Electronic Lecturers and may inform the professional development activities provided to Polytechnics and technology educators in other states. Providing training activities deemed as important and needed, can lead to more effective teachers, thereby enhancing the educational experience of technology education students, and ultimately advancing the technology education forward. .

It is a known fact that for learning to take place, a teacher has to impart what he knows. For electrical/electronic technology students to be effectively taught, the lecturers should not only know what to teach but also be competent in imparting such knowledge. This competency and knowledge can only be acquired through training. To this end, this study has taken a critical look at knowledge and skills of the technology lecturers which impedes high performance level in electrical/electronic technology teaching and hence need improvement through training.

Recommendations

Based on the research results, the following recommendations were made:-

1. National Board for Technical Education and Polytechnics Administrators should provide training opportunities for polytechnics lecturers on perceived importance and expressed performance of relevant skills and knowledge identified and required of them.
2. All the relevant knowledge and skills discovered to be important and not performing should packaged and included in curriculum of Vocational and Technical Education programme for the training of polytechnic Lecturers.

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