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Pedagogical Skills Training Needs of Technology Education Teachers in Technical Colleges of the North Central States of Nigeria.

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Abstract

This study was designed to identify the pedagogical skill training needs of technology education teachers in technical colleges of North Central States of Nigeria. A descriptive survey research design was adopted for the study. A total of [...] respondents were used for the study. A structured questionnaire containing [...] items was used to collect the data needed for the study. It was validated by [...] and pilot tested to establish its reliability. A reliability coefficient of 0.[...] was obtained using Cronbach Alpha formula. The data collected were analysed using frequency count, percentage, mean, standard deviation and t-test. The findings of the study revealed that technical college teachers need to acquire certain competencies and skills in the following areas: design instructions appropriate to goals and objectives, emphasises instructions appropriate to goals and objectives, design instructions that enable students to [...] industrial process first hand and use the relevant of workshops and laboratory among others. Based on the findings conclusions were drawn and recommendation made among which are the federal and state ministries of education should provide in-service training to technical college teachers who have deficiencies in terms of pedagogical skills, science and technical schools management board should organize workshops, seminars and conferences to technical college teacher in order to update and upgrade their knowledge so that they will be able to teach efficiently and effectively.

Introduction

The training given to individuals in any formal organization is very important. Training will help the individual to be equipped with the capacity to organize, plan to set goals and execute the necessary programmes in that society and to achieve the desired results. In order to ensure high degree of competence and sense of responsibility of individuals, both pre-service and in-service training of educators and administrative personnels is necessary to keep the person up-to-date with new teaching techniques.

Training is recognized as a pre-requisite for man power development and economic growth of a nation. The future of education and technology development of Nigeria depends on the quality of teachers, because they teach the students who are expected to be productive workers and leaders of tomorrow. These technology education teachers need to be effective and efficient in order to teach students well. Stressing the importance of training Fafunwa (1991) remarked that the qualities of all other professions are influenced by the caliber of teachers because adequate training cannot take place without competent teachers. In line

with the above Fafunwa (1990) observed that, professionalization of teaching will require the introduction of in-service professional training programmes for teachers. There is therefore need for a very considerable expansion of in-service training and for this reason, the pace of change educationally and socially is greater now than ever before. Teachers cannot possibly keep in-tune with the time if they are not re-trained through out their professional career.

However, it must be noted that the success of any educational programme depends upon the availability of adequate number of professionally trained teachers. This is obvious because no educational system can rise above the quality of its teacher (FRN, 2004). Also Eyibe (1990) stated that the greatest obstacle encountered in Nigerian schools is the use of teachers who are inadequately prepared or who are not professionally skilled. In-service education will give teachers the opportunity to improve their knowledge and skills and keep them abreast with the new development in their fields. In order to achieve the objectives of technology education a teacher needs to be very knowledgeable in both the subject

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matter and pedagogy of teaching. A competent teacher knows how best to derive the aims and objectives of a lesson, prepare the lesson plan, select teaching resources and methods, present the lesson, manage the classroom and evaluate the lesson.

Instructional areas classified within technology education are not static in nature and content, rather the instructional areas should change as technology changes and as the individual's needs changes. Therefore, this study was geared towards finding out the pedagogical training needs of technical college teachers in order to update and upgrade their knowledge.

Statement of the Problem

The success of any educational system no matter how well it is planned depends to a large extent on the quality of teachers. The greatest obstacle encountered in Nigerian schools is the use of teachers who are inadequately prepared or who are not professionally skilled. Most technology education teachers in technical colleges have insufficient and inadequate knowledge of their subject matter which make them incapable to perform their functions of imparting knowledge to the learners efficiently and effectively (Eyibe, 1990; Gyallesu,1992 and Fafunwa, 1995). A teacher must have an indepth knowledge of pedagogy of teaching to be able to bring about desirable learning in students entrusted to him, his knowledge not withstanding. Obioma (1990) stressed that lack of professionally trained and qualified teachers and teachers' difficulty in interpreting some aspects of the curricula specifications in their areas of specialization are some of the problems of technology education in technical colleges.

Purpose of the Study

The study was designed to identify the pedagogical skills training needs of technical college teachers in technical colleges in North Central States of Nigeria.

Research Question

Answer to the following research question was sought in this study:

What are the perceived pedagogical skill training needs of technical college teachers in North Central states of Nigeria?

Hypothesis

The following null hypothesis was tested at 0.05 level of significance

Ho1 There is no significant difference between the mean response of technical college teachers and administrators with respect to their perception on pedagogical skill training needs of technical college teachers in North Central states of Nigeria.

Methodology

A descriptive survey research design was adopted for this study. The study was carried out in all the technical colleges in North Central states of Nigeria. The target population for the study consists of all technical college teachers teaching trade subjects and all administrators (principals and vice principals) in all the technical colleges in North Central states of Nigeria. Simple random sampling technique was used to select 3 states and Federal Capital Territory (FCT) Abuja, the states include Niger, Kogi and Nassarawa States and all the technical colleges in the 3 states and FCT Abuja were used as sample. Stratified sampling techniques was used to select 227 technical college teachers. No sampling was used to select the administrators all the 48 administrators were used for the study. A total of 275 respondents were used for the study.

A structured questionnaire was the instrument used for data collection. The response categories of the instrument used are Highly Needed, Needed, Moderately Needed and Not Needed, which are assigned numerical values 4, 3, 2 and 1 respectively.

The instrument was subjected to content validation by three senior lecturers in the Department of Industrial and Technology Education, Federal University of Technology, Minna. Their suggestions were used to refine the questionnaire to its present form. The instrument was pilot tested using 16 technical college teachers and 6 administrators from Government Technical College Malali Kaduna and Federal Science and Technical College Kafanchan. This yielded a reliability coefficient of 0.97 using Cronbach Alpha formula.

Data collected were analysed using descriptive statistics such as frequency count, percentage, mean, standard deviation and inferential statistics such as Z-test. To determine the acceptance level the decision

point is between the lower limit of 1 and upper limit of 4. Therefore, any item that falls between 0.5 – 1.49 were considered (Not Needed), 1.50 – 2.49 (Moderately Needed), 2.50 – 3.49 (Needed) and 3.50 – 4.49 (Highly Needed). The Z-critical value necessary for rejection or acceptance of the null hypothesis was at 0.05 level of significance, thus any value below the Z-critical value was considered accepted while those equal to or more than were rejected.

Research Questions 1

What are the perceived pedagogical skills training needs of technical college teachers in technical colleges of the North Central states of Nigeria?

Table 1
Mean Responses of Teachers and Administrators on the Perceived Pedagogical Skills Training Needs of Technical College Teachers of the Technical Colleges of North Central States of Nigeria

S/No	Items	$\overline{X}_1$ $N_1 =$ 227	$S.D_1$	$\overline{X}_2$ $N_2 =$ 48	$S.D_2$	$\overline{X}_t$	$S.D_t$	Remarks
	Identifies learners emotional, social, physical and intellectual needs	3.45	0.54	3.63	0.48	3.54	0.51	HN
	Design instructions appropriate to goals and objectives	3.42	0.62	3.68	0.47	3.55	0.55	HN
	Design and implement evaluation procedures which focus on learner's achievement and instructional effectiveness.	3.38	0.56	3.63	0.48	3.50	0.52	HN
	Promotes effective pattern of communication	3.32	0.61	3.61	0.49	3.45	0.55	N
	Use resources appropriate to instructional objectives.	3.36	0.62	3.53	0.55	3.45	0.59	N
	Demonstrate a repertoire of instructional models and teaching skills appropriate to specified objectives and to particular learners.	3.31	0.70	3.37	0.59	3.34	0.60	N
	Uses organizational and management skills to establish maximally effective learning environment.	3.32	0.69	3.47	0.71	3.40	0.67	N
	Integrate into the instruction the cultural environment of students	3.32	0.69	3.34	0.73	3.33	0.72	N
	Implement instruction appropriate to goals and objectives	3.62	0.66	3.58	0.49	3.60	0.59	HN
	Identifies and/or specified instructional goals and objectives which are based on learners needs	3.36	0.66	3.50	0.60	3.43	0.65	N

S/No	Items	$\bar{X}_1$ $N_1 =$ 227	S.D.$_1$	$\bar{X}_2$ $N_2 =$ 48	S.D.$_2$	$\bar{X}_t$	S.D.$_t$	Rema rks
11	Identify and perform task analysis according to the objectives of the lesson	3.30	0.66	3.50	0.60	3.40	0.63	N
12	Identify the best method of presenting new skills and safe working habits associated with practical exercises	3.34	0.64	3.50	0.35	3.42	0.51	N
13	Having thorough grasp of the structure and content of the subject expected to be taught	3.32	0.65	3.37	0.71	3.35	0.69	N
14	Asking questions that will stimulate discussion and critical thinking	3.32	0.64	3.61	0.54	3.47	0.59	N
15	Using instructional methods that will lead to the development of intellectual, affective, and psychomotor skills	3.38	0.65	3.58	0.59	3.48	0.62	N
16	Using instructional methods which enable students to observe procedures and techniques that will illustrate specific skills, principles and concepts.	3.38	0.64	3.50	0.60	3.44	0.62	N
17	Identify instructional methods that lead to cross fertilization of ideas	3.16	0.65	3.37	0.54	3.27	0.60	N
18	Identify the instruction that can be used to teach skills, facts, concepts and principles embedded in the course content	3.31	0.65	3.34	0.68	3.33	0.67	N
19	Design instructions that enable students to study industrial process first hand and see the relevant of workshops and laboratory.	3.31	0.59	3.39	0.63	3.35	0.61	N

Key

$\bar{X}_1$ = Mean Responses of Teachers
S.D.$_1$ = Standard Deviation of Teachers
$\bar{X}_t$ = Average Mean of all Respondents
N$_1$ = Number of Teachers
HN = Highly Needed

$\bar{X}_2$ = Mean Responses of Administrators
S.D.$_2$ = Standard Deviation of Administrators
S.D.$_t$ = Average Standard Deviation of all Respondents
N$_2$ = Number of Administrators
N = Needed

Analysis of mean responses of the 2 groups from Table 1 reveals that out of the 19 items only 4 items were adjudged as highly needed by the technical college teachers. The items are 1, 2, 3, and 9 while items 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19 were ticked as needed.

Hypothesis

HO$_1$: There is no significant difference between the mean responses of technical college teachers and administrators with respect to their perception on pedagogical skill training needs to technical college teachers in North Central States of Nigeria.

Table 2: Z-test for Perceived Pedagogical Skills Training Needs of Technical College Teachers in North Central States of Nigeria

Respondents	N	Means	SD	df	P	Z-cal	Z-Crit	Remarks
Teachers	227	63.50	6.99					
Administrators	48	67.03	5.98	292	0.05	-3.11	1.96	Accept

Recommendations

Based on the findings of this study, the following recommendations were made:

1. The Federal and States ministries of education should through the Science and Technical Schools Management Board set in motion a machinery for implementing the findings of this study with respect to providing in-service training to technical college teachers who have deficiencies in terms of pedagogical skills.

2. Science and Technical Schools Management Board should organise workshops, conferences and seminars to technical college teachers in order to update and upgrade their knowledge so that they will be able to teach efficiently and effectively.

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