

# ASSESSMENT OF TECHNICAL COMPETENCE NEED OF INTRODUCTORY TECHNOLOGY TEACHERS IN JUNIOR SECONDARY SCHOOLS IN ADAMAWA STATE

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## **Abstract**

This Study was conducted to assess the technical competency needs of Introductory Technology teachers in Adamawa State of Nigeria. The technical competency needs assessed in this study were the technical teaching skill acquired as well as required. The population for this study consisted of 201 Introductory Technology teachers in 174 Government Secondary Schools within Adamawa State. A sample of 60 teachers was used for the study. A structured questionnaire titled Teacher competence Questionnaire was used for data collection. 53 questionnaires were returned out of the 60 distributed out of which one was invalid. The study revealed that: Introductory Technology Teachers in Adamawa State have deficiencies in various aspects of Introductory Technology, they need further training in various aspects of Introductory Technology, most of the Introductory Technology teachers in Adamawa State have acquired technical skills in one or two aspect of Introductory Technology, all the Introductory Technology teachers in Adamawa State agreed that they need refresher courses and in-service retraining to be properly grounded in other areas so as to have a broad-based training in all aspects of Introductory Technology.

## **Introduction**

The 6-3-3-4 system of education emphasizes introduction to the rudiments of technology at the junior level of secondary school. It is expected that children that have passed through this level of education will acquire a broad-based knowledge of technical skills. This is to make them have a wide range of career choices to make. Introductory technology is the subject that integrates modules of metal work, electrical electronics work, wood work, building construction work, auto mechanics, metal work, ceramic and technical drawing. According to the Federal Republic of Nigeria (2004), the objectives of introductory technology are; introduction into world of technology and appreciation of technology towards interest arousal and choice of a vocation at the end of junior secondary school and professionalism later in life. Others are; acquiring technical skills, exposing students to career awareness by exploring usable options in the world of work and enabling youths to have an intelligent understanding of the increasing complexity of technology.

After the introduction of introductory technology, with these laudable objectives twenty-nine years ago, one expects that there should have been a better story about the quality of vocational technical education in Nigeria today. Unfortunately, for quite some times now many informed persons within and outside the education industry have expressed their uneasiness over the problem of the falling standard and quality of technical education in Nigeria (Fubara, 1998). He further lamented that most pupils can hardly define what they are really up to in life.

The success of any educational programme hinges on the ability of teachers to implement it. This is why the government has established training institutions and suitable programmes for the production of teaching manpower needed for the implementation of the 6-3-3-4 system of education. Introductory technology, which is one of the core pre-vocational subjects introduced in the system, needs a serious attention, in view of its importance. Today people are not talking just of education, but functional education that enable children to use their heads and hands in a creative way that leads to self-reliant and promotes fast technological development.

Considering the multifarious nature of introductory technology, teachers that are to handle this aspect of junior secondary school curriculum should also be trained to cope with the challenges of the subject. All prospective introductory technology teachers need to keep abreast with the content of the subject. However most of the introductory technology teachers are skilled or knowledgeable in one area of introductory technology or the other; and so that is the manner in which the subject is being handled at the moment in the junior secondary schools of Adamawa State. It is assumed that

most of the introductory technology teachers do not possess adequate training background for teaching the subject.

### **Statement of the Problem**

There has been poor performance of students at junior secondary certificate examination JSCE level in Adamawa State. The problem of this study therefore is to assess the technical needs of introductory technology teachers currently handling the subject in Adamawa state junior secondary schools. To ascertain its effect on students performance in the subject at the JSCE level.

### **Purpose of the Study**

The purpose of the study was to assess the technical competency needs of introductory technology teachers in Adamawa State secondary schools. Specifically the study was to:

1. Ascertain the training background of introductory technology teachers in Adamawa State Junior secondary schools.
2. Identify technical skills possessed by introductory technology teachers in Adamawa State Junior secondary schools.
3. Identify additional technical skills required by introductory technology teachers in Adamawa State Junior secondary schools.

### **Research Questions**

1. What training background does introductory technology teachers in Adamawa State Junior secondary schools possess?
2. What are the technical skills acquired by Adamawa State introductory technology teachers during their training?
3. What technical skill(s) does introductory technology teachers in Adamawa State Junior secondary schools require for the successful execution of their jobs?

### **Method**

This study employed the use of descriptive survey research design. This is because the researcher is only interested in observing the nature of the sample subjects without any attempt to manipulate or control them (Asika, 1991). The area of the study was Adamawa state of Nigeria. The study covered the five educational zones of the state, namely; Mubi, Gombi, Yola, Numan and Ganye zone. It was mainly on the assessment of the technical competency needs of introductory technology teachers for the successful execution of their jobs. The population for the study was 201 introductory technology teachers serving in government secondary schools in Adamawa state of Nigeria as at 2007/2008 school year. Table 1 presents the number of government secondary schools offering introductory technology and the teachers in the respective five zones.

**Table 1.**

Number of Government Secondary Schools Offering Introductory Technology and Teachers in the Five Educational Zones of Adamawa State 2007/2008 School Year.

Zone	No of schools Offering intro.tech.	No of schools Selected	No of intro. tech. Teachers	No of teachers selected
Mubi	39	12	44	13
Gombi	44	13	54	16
Yola	27	8	30	9
Numan	36	11	40	12
Ganye	28	8	33	10
Total	174	52	201	60

Source: Adamawa State PPSMB Statistic Department number of schools/staff by zone (2008)

A stratified random sampling technique was used for the study. The strata were the five educational zones, namely; Mubi, Gombi, Yola, Numan and Ganye. The sample selected from each zone was proportional to their number of occurrence in the population. 30 per cent of the total schools and teachers were randomly selected from each stratum. According to Asika (1991), and

Toluh (2001), even when 10 per cent of the population is used, is sufficient for a study. Thus the sample for this study was made up of 60 introductory technology teachers drawn from 52 government secondary schools in Adamawa State.

The instrument for the study was a structured questionnaire, developed by the researcher according to the specific purposes and research questions. The scoring scale of the instrument was meant to elicit the respondents' level of agreement on the listed items in the instrument. Face validity was established for the instrument. Five experts from Technology Education Department, Federal University of Technology Yola were requested to appraise the content, language, relevance and adequacy of the items on the questionnaire. Their comments and suggestions were considered for improving the quality of the instrument. A pilot study was carried out in five government secondary schools in Askira-Uba local government area of Borno State to determine the reliability of the instrument. The split-half technique was adopted. The reliability coefficient of the whole test yielded a correlation coefficient of 0.66 for the respondents' extent of agreement to the listed items concerning their training. The information collected by the researcher was analysed using percentage.

### **Findings**

The findings of the study reveal the following:

1. Most of the introductory technology teachers in Adamawa State Secondary Schools have the Nigeria Certificate in Education (NCE) Technical training background. Coming closely the NCE is the degree training background. A few of the introductory technology teachers either have C&G, OND, TTC or HND as their training background respectively.
2. Most of the introductory technology teachers in Adamawa state secondary schools have acquired technical skills in one or two aspect of introductory technology.
3. The introductory technology teachers in Adamawa state secondary schools require training in various aspects of introductory technology.
4. More than half of the introductory technology teachers require practical training in most of the areas of introductory technology and in the concept of welding and auto mechanics.
5. Introductory technology teachers in Adamawa State secondary schools have passed through a period of general training in various technical areas. They also have acquired some technical skills in these areas. However they have agreed that the skills they have acquired in these technical areas cannot be compared with the one they have in one particular technical area of study.
6. The period of general training in other technical areas at NCE level is not adequate to acquire the much needed technical skills in various aspects of introductory technology for effective teaching of the subject.
7. About half of the introductory technology teachers in Adamawa State secondary schools have adequate training for teaching of introductory technology in the state
8. All the introductory technology teachers in Adamawa State secondary schools have agreed that they need refresher courses and in-service training to be properly grounded in other technical areas so that they can have a broad-based training in all aspects of introductory technology.

### **Discussion**

Introductory technology teachers in Adamawa State junior secondary schools have problems. Introductory technology has come to stay as a school subject and an integral part of the junior secondary school syllabus. Teachers of introductory technology therefore ought to be well prepared to face the challenges of the subject. Edigin (1994) observed that the complexity of introductory technology make it almost practically impossible for one teacher to handle it successfully. However, Federal Republic of Nigeria (2004), in the national policy on education stated that, the aim of introductory technology is to give the children broad knowledge in rudiments of technology to prepare them for future studies in related fields of engineering and to prepare the for a world of work. It therefore takes a broad technical knowledge and acquisition of technical skills to be an effective introductory technology teacher. Edigin (1994) said that the effective teaching of a subject could best be measured by the amount of knowledge the learner acquires as a result of the teaching learning process. In this case the teacher of introductory technology is the supplier of goods and the

learner is the consumer. It therefore means that the teacher cannot supply more than what they are taught.

The findings of this study agrees with what Ajisa (1990) observed, that in most of our schools, the number of unqualified teachers is alarming and unless government institute a drastic measures to rectify the dominance of unqualified teachers in schools, the quality of instruction will be inadequate. Laudable as this system of education with its beautiful objectives had been, it is beset with numerous problems. One of the major problems militating against its successful implementation is the ineffective teaching of introductory technology in our secondary schools. This malignant problem of unqualified introductory technology teachers though identified by all and sundry is yet to receive the desired government attention as shown in the case of Adamawa State of Nigeria.

### **Conclusion**

Based on the finding of this study, the following conclusions are reached.

1. Introductory technology teachers in Adamawa State secondary schools need broad, adequate knowledge in technical areas and practical skills in all the technical areas
2. The teachers of introductory technology in Adamawa State government secondary schools have never been effective as a result of the number of the unqualified introductory technology teachers handling the subject.
3. The children that passed out from junior secondary schools in Adamawa State do not acquire enough technological base knowledge for self-reliance or for further studies in engineering fields due to the quality of introductory technology teachers that are in these schools. This is evident in the performance of the students in the subject, at the JSCE level.

### **Recommendations**

Based on the findings of the study, the following recommendations are made:

1. The Adamawa state Ministry of Education in collaboration with Post Primary Schools Management Board should organize workshops and training for introductory technology teachers in the state to make up for the other areas of introductory technology in which they are deficient.
2. Introductory technology teachers in Adamawa State Junior Secondary Schools should be encouraged to go for further training through in-service in the Universities of technology where they can acquire both theoretical and practical skills needed to teach all the areas of introductory technology.

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