

Review

The need to effectively prepare the technological education teacher for quality education in Nigeria for social transformation, self-reliance and economic development

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Abstract

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The importance of human resource in any organization or nation cannot be overemphasized. This is with the fact that human resource is the most important factor of production. This paper therefore focuses on the need to adequately and effectively prepare the technological teacher for quality education in Nigeria for social transformation, self-reliance and economic development. The paper x-rays the various institutions and programmes meant to prepare the vocational and technology education teacher as well as the objectives of the vocational and technical education as stated in the national policy on education. The paper also tried to expose some of the problems militating against effective preparation of the vocational and technical education teacher. A conclusion of the fact that a well trained vocational and technology teacher will bring about the technological change that we have been yearning. Some suggestions on how to better the situation are also proffered.

Keywords: Technical Education, Vocational, Practical Skills, Teacher, Quality Education, Nigeria

INTRODUCTION

The importance of human resources in any organization especially the teacher to the educational sector in developing and even developed nations cannot be overemphasized. The teacher is the most important factor of production of skillful human beings. The teacher combines all every other resources to bring about the achievement of the desired goals and objectives of any nations educational philosophy and needs. The teacher is the hub of every educational system and pillar on which every educational system rests. This is why the Federal Republic of Nigeria declared in the national policy on education (FRN, 1998) that no educational system can rise above the quality of its teachers.

Adeleye (2000) added his voice when he reported that "no educational policy, no matter well planned can succeed without the supply of the right quantity and

quality of teachers and other personnel.

The determination of the extent to which students generally and specifically that of vocational and technical education acquire the skills, knowledge and values basically depends on the quality and capability of the teachers of vocational and technical education. Vocational and technology education will not yield the desired goals of developing any nation unless its teachers are able to play and fulfill the role of effectively teaching, to impart the needed skills and competencies into the students. The absence of vocational and technical education teachers will amount to continuous under development of any nation. This may be the reason why Olaitan, Nwachukwu, Igbo, Onyemachi and Ekong (1999) observed that for effective implementation of any curriculum to achieve the desired outcome

depends in part, on the teachers ability to effectively manipulate, operate, use equipment, tools and materials to help the learners learn the content of the curriculum.

The vocational and technical education teacher, who should have the knowledge and the capability to teach as well as impart the needed skills and competencies to the students, is expected to play some roles. These roles are meant to prepare another skillful and competent teacher (worker). These roles include the cognitive role, psychomotor role and the affective role.

The teacher of vocational and technical education should be well informed of the latest development in the world of technology. He should then teach his students the latest information and development in the world of technology so as for them to be able to adapt and conform to new ways and process of doing things in the work environment. This is the cognitive role of the teacher of vocational and technology education.

On the other hand, the vocational and technology education teacher should be taught using and playing the role of the psychomotor. The VTE teacher should understand that psychomotor involves the objectives that have to do with manipulative skills. He should therefore acquire the essential skills and competencies of using required and necessary tools, equipment and machines that are used in the occupation to teach his students.

To play the affective role, the vocational and technical education teacher should have the understanding that the possession of work attitude and values, results to efficiency of machines as well as building in him (the learner) the self-will to perform. He (the learner) should be encouraged to inculcate new attitudes, values and interest which will bring about social advancement, self reliance and economic development.

Therefore, since the quality of manpower is needed in the achievement, growth, social reconstruction and transformation, as well as technological development and advancement of any nation, some certain issues need to be addressed. Consequentially, this paper discusses the problems affecting the effective preparation of teachers of technological education and the prospects with a view to enhance efficiency. This will no doubt bring about the actualization of the much talked about and the needed technological advancement and national development as well as self reliance and economic development. The question is where we prepare the vocational and technological education teacher. This will lead us to the discussion of the institutions and programmes preparing the vocational and technology teacher.

The institutions and programmes preparing the technical education teacher

The onus of the preparation of the teachers of technical education lies on the various programmes designed to

achieve the aims and objectives of technical education. In other to achieve the stated aims and objectives of technical education as enshrined in the National Policy on Education (FRN, 2014), on the one hand, and the preparation of the needed trained and skillful teacher of technical education on the other hand; some programmes have been designed and put in place by the federal government of Nigeria.

It will be better we remind ourselves that technical education is that aspect of the general education that has to do with the training and impartation of the necessary skills leading to the production of craftsmen, technicians and other skilled personnel who will be enterprising and self-reliant (FRN, 1999).

It therefore means that technical education is that aspect of education which will train teachers and other skillful and competent personnel, who can impart these already gained or acquired skills into others. This gave rise to the establishments of various programmes both at the NCE and degree levels where technical educators will be trained. These teachers's training programmes for technology teachers include colleges of education and polytechnics which awards the National Certificate of Education (NCE) and the Higher National Diploma (HND) respectively. Some few universities also produce trained technology teachers both at the degree and the post graduate degree levels. The universities programmes leads to the awards of Bachelor of Science in Education (B.Sc. Ed), Bachelor of Education (B.Ed), Masters in Education (M.Ed) and Ph.D. All in technology.

College of education programme in technical education

Technical education is that aspect of vocational and technical education which is aimed at preparing individuals to acquire practical skills, basic and scientific knowledge and attitudes required as craftsmen, and technicians at sub-professional level (FRN, 2004). Implicatively and in order to achieve this broad philosophy, some objectives were clearly stated.

These include among others:-

- ❖ To produce trained manpower in applied science, technology and commerce, particularly at sub-professional grades and
- ❖ To give training and impart the necessary skills leading to the production of craftsmen, technicians and other skilled personnel who will be enterprising and self-reliant.

In other to achieve the above set objectives, some candidate are selected using the ordinary level results (O' level WAEC) to study technical education in the colleges of education. Whereas the colleges of education, (technical) runs and operates purely technical programmes, states and federal colleges runs and

operates along side, a general education programme, though under a separate department. The technical teachers training programme at the college lasts for three (3) years. Within these three years, the students are exposed to both theoretical and practical works to acquire skills drawn from the curriculum that covers courses (trades) in different areas of technical education, general education, elective and possibly ancillary courses. The students are also exposed to teaching practice exercise which lasts for twelve weeks as well as two periods of industrial attachment with the aim of equipping them with the nitty-gritty of teaching profession and the needed practical skills for them to fit into the world of work when they graduate. In essence, the teachers who teach in these colleges are expected to have undergone social training to be specialists in technical education trades – with a minimum of first degree in technical education or technology (B.Sc Ed) technical education. This is coupled with industrial experiences.

University programmes in technical education

In line with the National Policy on Education, (FRN, 2004) technical education is run or offered in the universities. However, it is sad to note that it is only a few universities that offer or run technical education programmes in Nigeria as at today as compared to the multitude of universities in the country. These few universities that offer the technical education programmes or trades do so only at the undergraduate and Master's degree levels.

The universities that run or offer technological and related courses named universities of technology include those in Bauchi in Bauchi State, Akure in Ondo State, Owerri in Imo State, Minna in Niger State, and Yola in Adamawa State. All of these aforementioned universities of technology may not be producing enough teachers compared to the about 70 million Nigerian population. This will not bring about the technological advancement or emancipation that we are yearning for.

Outside the main university programme to produce the technical teachers, the government realizing the need and importance of the technical teachers, went into an agreement with the United States of America in 1978 (Ekpenyong 2008). The agreement enabled the federal government of Nigeria to place annually a certain number of Nigeria technical teachers in America higher institutions of learning for two-year training in vocational – teacher education under a programme called Technical Teacher Training Programme (TTTP). This TTTP in various trades was run for 1 – 2 years to obtain a degree or post graduate certificate depending upon the entry qualification. However, this was later conducted locally in some selected colleges of education and universities with the federal government fully sponsoring. It is sad to note once more that due to negligence and lack of funding, the

programme has died without achieving its objectives – therefore vocational and technical education programmes is still suffering the shortage of the needed trained teachers. Many of the students who got admission into different institutions and programmes were rejected by the universities. Some who could not cater for their bills were forced to drop out.

Prevailing problems facing the preparation of teachers in technical education

Teaching and learning for effective practical skills development and advancement in technical education cannot be achieved without adequate provision and utilization of materials, equipment, tools, machines and above all, the teaching personnel. It is pertinent to note that the federal and state governments, the institutions and the society as a whole should make concerted efforts to plan for the continuous growth and development of technical teachers.

The 1981 edition of the National policy on Education outlined a number of steps aimed at improving the quality and standard of vocational and technical education in Nigeria.

These include among others the expansion of facilities for the training of technical teachers, inculcation of attitude of respect for and appreciation of the role of technology in society, availability of prospect for upward professional mobility for those who are in technical and vocational education. Others include the provision of vocational guidance to students, and effective liaison between industry and technical institutions in matters of curriculum design. It should be noted that all of the aforementioned points are to be achieved only when the VTE teacher is trained and competent in vocational and technical education trades.

However, the problems militating against the effective preparation of the teachers of technical education can be summarized as:

- ❖ Inadequate production and supply of technical teachers
- ❖ Inadequate funding and supply of equipment, tools and machines
- ❖ High cost of administering technical education
- ❖ Condition of service for technical teachers
- ❖ Lack of relationship between Technical college curriculum and the industry

Inadequate production and supply of qualified technical teachers

The inadequate production and supply of technical teachers in their right specifications and numbers for the different trades such as automobile technology,

metalwork technology, woodwork technology, building technology and electrical/electronic technology has continued to be in short supply. There are some cases where trained teachers are available for just one or two of the trades and the others will suffer non-availability. This might be why Abdullahi (1993) observed that the major reason for inadequacy of teachers is that there are a few institutions that train vocational and technical teachers in Nigeria, compared to other types and caliber of teachers.

Inadequate funding and supply of equipment, tools and machines

Technical education is a very expensive programme and it needs a lot of funding. The products of the technical colleges will only perform or teach effectively and better, if the right and adequate tools, equipment and machines are used by a qualified and competent teacher in the teaching processes. Perhaps this is why Okeke (1990) stated that without the provision of adequate learning materials, achievement of qualitative vocational education might be impossible. Aina (2000) complimented Okekes statement when the observation was made that high failure rate in the main trade in the technical colleges have been associated with inadequate teaching facilities required for training of students to acquire the right skills for productive work.

High cost of administering technical education programme

While general education programmes such as humanities may only need a building of a lecture hall, the technical education programmes basically needs in addition, the building and equipping of special workshops and laboratories with equipment, tools, machines and other tools. This of course involves a large sum of money which the government and individual philanthropies has failed to purchase and supply to the institutions and programmes offering vocational and technical education. Vocational and technical education is a very expensive programme because of the tools, machines and materials that are important part of the training process (Okoro, 1999).

Condition of service for technical education teachers

One thing is to employ the trained and qualified teacher; it is another thing to retain those qualified competent and skillful personnel. The provision of the appropriate trained caliber of technical teachers along the line of the current educational system falls among the federal government's objectives on technical education. In most state

education systems, the conditions under which vocational and technical teachers work appear somewhat appalling. Incentive packages rank almost the lowest when compared with those with comparable qualifications and expertise in other professions and jobs. This inequality in reward leads to dissatisfaction and finally low performance and or sometimes outright resignation from the service to more attractive sector of the economy. This will continue to put technical education in inadequacy.

Lack of relationship between technical college curriculum and the industry

The cooperation between industry and the technical education institutions has started growing tremendously in recent times. It should be recalled that one of the functions of the Industrial Training Fund (ITF) is to relate the technical institutions curricula to what the activities in the industries are, through the Students Industrial Work Experience Scheme (SIWES). This ITF initiatives is being reinforced when the federal government of Nigeria stated in the National policy on education (FRN, 1981) that "in recruiting teachers for technical education institutions, the industrial experience of candidates will be given the highest premium. However, this is not so as the industries where the technical students' teacher is expected to gain more industrial experiences is never considered or consulted in the design and implementation of the technical institution curriculum which guides the students study in the institution. This is why Ekpenyong (1988) observed that "information on any significant cooperation between industry and colleges on the design of polytechnic, technical teachers college, senior and junior secondary school, technical and pre-vocational curricular has been relatively low, owing to the fact that the main responsibility for curriculum development at these levels often rests with specific or designated government agencies such as the NERC, NBTE and NCCE". In other words, the industry is not consulted in the design and possibly the implementation of the VTE curriculum.

Suggestions for preparing the technical education teacher

The following suggestions will bring about the effective preparation of the technical education teacher to teach vocational and technical programmes.

1. The federal and state governments should realize that the technology teacher is the chief coordinator of all the equipment, tools, machines and other facilities. Therefore he (the learner) should be trained and re-trained even when already employed.

2. The technology teacher should be encouraged and motivated to put in his best in service. This could be done when the gap between the salaries/remunerations of the technology teacher and his counterparts in the industry or other profession is bridged.

3. The government should try as a matter of urgent importance, to provide adequate funds to the technical institutions/departments. This is to enhance them purchase the needed, latest and relevant equipment, tools, machines and materials for the training of the technical education teacher.

4. The industry should be consulted during curricula design and development. This is because the industry is relied upon during training (SIWES) and of course it is where the teacher may go to for refresher course even after graduation.

5. More institutions should be equipped and encouraged to embark on the running of technical/technological education programmes.

6. Vocational and technical education teachers should be sponsored more frequently to technical trainings, workshops, seminars and conferences. This will make them to be equipped with the latest information in the world of technology.

All of the above suggestions will enhance the preparation and production of effective technical education teacher.

CONCLUSION

Specifically, the 1981 edition of the National policy on education outlined a number of steps at improving the quality and standard of vocational and technical education in Nigeria. Among these are the expansion of facilities for the training of technical teachers, inculcation of attitude of respect for and appreciation of the role of technology in society, availability of prospect for upward professional mobility for those who are in technical/vocational education.

The government realized the importance of the technology teacher, therefore placed high premium on the effective and efficient training of the technology teacher, knowing very well that the teacher being an object of change will bring about the highly needed technological advancement that will place this country on

the level of the developed nations. This is the reason why it stated in the same National policy on education (FRN, 1981) "that in service training including industrial attachment will be recognized as necessary for updating the competence of technical teachers".

However, most institutions often find sponsoring their academic staff for a few days seminar, once a year, a bit too expensive to accommodate. Technical education teachers should therefore be sponsored to practical refreshers course or programme, and technological seminar at least once a year. Possibly outside this country to technological advanced nation so that the latest processes and ethics involved in arriving at producing on item or article should be learnt.

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