QUALITIES NEEDED BY AN INDUSTRIAL EDUCATION TEACHER FOR QUALITY ASSURANCE IN THE TEACHING OF TECHNICAL COURSES

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Abstract

The teacher occupies a very prominent position in the development of any system, be it education system, technological and industrial development. The outcome of any programme can never be better than the quality of the teachers that implemented the programme. Quality is a thing that is part of a person's character especially something good. Quality can also be seen as features of something especially one that makes it different from others. Teaching is a tedious job. For any teacher to play his roles effectively, he must possess certain qualities which are professional and personal. There are certain qualities which an industrial education teacher requires for quality assurance in the teaching of technical courses. The paper therefore analyzed the qualities needed by an industrial education teacher under the following sub-headings: social and psychological qualities, physical qualities and teaching qualities.

Introduction

Historically, Nigeria was until October, 1960, a British colony and inherited a number of British institutions' values immediately after independence (Olaitan, 1996). One of the inherited values was preference for liberal education and white-collar jobs it fetches. The Ashby Report (1960), Ayeyalem and Baiyelo (1990) reported that Nigeria was faced with an acute shortage of skilled technical manpower need to exploit its natural resources for economic development. The deplorable situation prompted to an urgent need to improve the quality and quantity of manpower especially in technical areas. The situation attracted the attention of most of the various commissions (Dike, 1959), Banjo, (1960) and Ashby (1960) who were mandated to review the aspect of the existing educational system before independence. These reviews were necessary because the government as from that time began to view technological development as the vehicle to industrialization and economic growth. At the same time, many of the commissions and National Development Plans discovered that technological and industrial development were hinged on the quality, assortment and quantity of available technical manpower in the country.

Poverty is the central global problem of the 21st century, that is why in a bid to still better the quality of life of the people, in September 2000 at the United Nations' Millennium Summit held in New York, United States, world leaders agreed to set a time bound 2015 and measurable goals for combating poverty, hunger, disease, literacy, etc. That summit gave rise to the current popular eight Millennium Development Goals (MDGs) which are being pursued at the global level. Njoku (2005) noted that all the MDGs are aimed at reducing poverty to a tolerable limit, as each of the goals has something to do with poverty.

The teacher occupies a very prominent position in the development of any system, be it education system, technological and industrial development. The outcome of any programme can never be better than the quality of teachers that implemented the programme. Ezeji (1986) in Alio (2008) pointed out that teacher's utterances, actions, leadership style, knowledge of the subject and skills in teaching, are considered as important factors for students learning. Ezeji (1986) reported that Sheffield (1974) found that most of the teachers liked by the students,

were largely student oriented, that is those who respect, care for and consider students as being important. Sheffield also revealed that successful teaching requires thorough preparation, hardwork and positive attitude towards students.

In the same vein, Baird (1972) noted that teaching in the field of industrial education opens the door to many opportunities. The world of industry and the industrial education teacher work hand in hand to provide educational opportunities for persons in many walks of life. Industry touches many people in their daily lives as they work, read, take care of their homes, relax or play. As a part of this industrial-social complex, Baird stressed that the industrial education teacher has a multitude of responsibilities in developing 'what it takes' to do an effective teaching job. It is necessary to point out that an industrial education teacher should be acquainted with contemporary industrial education programmes offered by junior and senior secondary schools, vocation centres, technical colleges, post-secondary technical institutions and universities. Oranu (1988) and Ogwo (1999) defined industrial education as a generic term used to include all tyes of education dealing with industry and technology in our society. The qualities needed by an industrial education teacher are analyzed under the following sub-headings: social and psychological and physical qualities required of an industrial education teacher and teaching qualities required of an industrial education teacher for quality assurance in the teaching of technical courses.

Social and Psychological Qualities Needed by an Industrial Education Teacher

It is very important that teachers and school administrators develop congenial and co-operative relationship with the social, civic and business organizations of the local community. Teaching is a tedious job. Oguegbune -Okwenu (1996) pointed out that the teacher is expected to play the role of a technician, model, a dispenser of knowledge, a craftsman, a cultivator, a facilitator, a banker and a confidant, a counselor, a judge, a lovable lover, a good parent, as well as a good manager. For the teacher to play the above roles effectively, he must possess certain qualities which are both professional and personal.

A good teacher should be knowledgeable in the subject matter, skillful in teaching methods and master of psychology of learning. A study conducted by Ezeji (1986) revealed that teacher's knowledge of his subject ranked first on the effects of teachers' behavior on students' learning at different levels of education and knowledge of the content is very important in every teaching and learning situations. This is because one cannot give what one does not have. Knowledge of content is always the first quality which the students notice in every teacher before they will begin to notice all other social and psychological qualities.

Good industrial education teacher should be enthusiastic and excited about his subject matter. He should make his teaching methods convey those traits to the students. This is very important in technical subjects in Nigeria because of the biases which people have for technical education programmes. Enthusiasm during teaching process impresses the students and helps them become serious in the learning of the subject.

An industrial education teacher should be patient with his students. This is because of uniqueness in the learning rate of the students. Baird (1972) pointed out that all students do not progress, develop skills, or understand concepts as readily as one may expect.

The teacher in industrial education should be resourceful; Anowor (2001) defined resourcefulness as the teachers ability to adapt to various learning situations, make innovations in teaching presentations, revise learning activities that "did not work" and have at his fingertips sources of information which will continually upgrade his teaching. A resourceful teacher is dynamic. He does not rely on old notes or textbooks as his teaching kits. He will be continuously visiting industry, reading the latest technical and professional literature in his field and also search the internet. Oguegbune-Okwuenu (1996) observed that a resourceful teacher is first and foremost a unique person whose personality determines much about him.

He is conscious of what he does as an individual. He chooses his style of doing everything in a way that differentiates him from others. He chooses his teaching aids and his language in a peculiar way that benefit his clients, without minding what others around him do.

Ogwo (1999) pointed out that the shop teacher should maintain close personal relations with the local industry in order to improve his instruction to the students most effectively. He should:

(1) learn by direct observation what changes that are going on in the industry. Thus, he can adjust his teaching to those changes.
(2) establish such cordial relations with local industries that he may take his students to observe at first hand the up-to-date working methods and tools of industry.
(3) be recognized by local industries as a competent worker and as well as an alert competent teacher.

An industrial education teacher should always make some industrial visits without the students to learn new machines, new processes, new products and new raw materials. He should visit industries to maintain close friendly relationship which will lead to opportunities for students' visits to industrial plants. Students' benefits resulting from industrial visits include:

(1) vitalizing the school work by showing its practical application
(2) enabling the students to observe working conditions
(3) opening avenues towards future employment
(4) increasing the confidence of the students in their teacher by:
    (a) showing his familiarity with the industrial applications of his instruction and
    (b) demonstrating his standing with influential men in the community.

Other qualities which should be identified under this subheading include that industrial education teacher should be neatly dressed at all time even when he is in the laboratory or workshop. Teacher's appearance matters a lot. A teacher may not be expected to dress gorgeously at any time, but he is expected to keep the few items of clothing he has neatly so as to appear clean at any time. He is the model in the school and the community so should be conscious of his dressing habit. He also should be a good speaker. He should be conscious of his utterances. He should master the medium of communication and be able to speak clearly, audibly and fluently since most members of the community especially those who have their children / ward in the school are likely to imitate him in speech.

Alio (2000) revealed that for a teacher to be successful, he should be sincere. He should be proud of watching his students grow in their confidence and in their ability. Sincerity of the teacher can be easily detected by the students. If the students know that the teacher is not well prepared, bluffing or providing "busy work" activities, they would probably would not let the teacher know but would probably discuss it among themselves. The teacher should be sincere enough to provide his best in preparation and teaching of his courses. Sincerity is rewarding to teachers and also to the students. It is necessary for an industrial education teacher to be educationally qualified (ie to possess at least the minimum approved educational requirement to teach). This should depend on the instructor's personal and educational goals.

Physical Qualities Required of an Industrial Education Teacher

It is generally believed that the acquisition of the requisite skills is a means of increasing the productive power of a nation (Okorie and Ezeji, 1988). In Nigeria, the traditional academic education seems to have failed to meet the needs of vastly increased school population. Okorie and Ezeji pointed out that this discrepancy would become appallingly clear when one considers that over 70 per cent of the gainfully employed persons

are engaged in work requiring manual skills and technical knowledge. At this stage in Nigeria's development, a substantial section of the labour force should be able to initiate independent production or the skilled work of a diversified nature. In another development, for any student to acquire any level of skill much will depend on the level of skill possessed by the teacher, and the level of skill in methodology of teaching which the teacher has and the degree of psychology of teaching possessed by the teacher. The view above is also in line with one of the principles of vocational education which states that vocational education will be effective in proportion as the instructor has had successful experience in the application of skills and knowledge to the operations and processes he undertakes to teach (Okoro, 1993).

An industrial education teacher should be healthy and active. Effective teaching is too involving especially in technical programmes. A teacher who has some physical handicap or one who is sickly would not adequately teach technical subjects. Oguegbune-Okwuenu (1996) noted that an effective teacher must be mentally stable and must be free from any serious defect as well as any infectious or contagious diseases. An industrial education teacher should not be a terminal patients for obvious reasons. He should avoid excessive smoking and drinking. He should try to maintain healthy environment to be free from certain diseases.

An industrial education teacher that always works with a lot of equipment and other facilities should be emotionally stable. This is for safety of self, safety of equipment and safety of others. This would also help him develop safety attitude to his students to enable them focus their attention on the prevention of possible accidents. The teacher should be able to control his emotions. This is necessary so that he would be able to control his emotions and feelings which can affect his actions and the relationship with others negatively.

In order to evaluate student's projects in technical subjects, some evaluation techniques are necessary. It is therefore required of an industrial education teacher to be a just man and never be biased in his judgments. Okon and Aderson (1982) in Oguegbune-Okwuenu (1996) indicated that a good teacher should always exercise prudence in practical matters, cautious with opinions and should be objective in evaluation. An industrial education teacher should not be vindictive in his dealings with his students and others. He should evaluate his students' performances on their merits and should not have any prejudice against anybody. He should have confidence in himself.

Teaching industrial education courses involves skill teaching and Alio (2008) noted that one of the most important responsibilities of a technical teacher is the development of knowledge and practical skill. She observed that quite often teachers are negligent with reference to a constant insistence on high standard of skills. Technical knowledge and desirable occupational attitudes are important but can never be compensated for the lack of practical skill. It is also necessary to consider the nature of skills and psychological conditions requisite for the building of needed occupational skills. An industrial education teacher should not be occupied with the teaching of skills but should help students acquire skills. Acquisition of vocational skills involves three factors-imitation, repetition and occupational participation. (Okorie and Ezeji, 1988).

In order to perform an act which involves more or less complex group of motor adjustments, it requires something more than verbal directions. There must be opportunity to imitate. When technical teachers find that instruction in procedures do not correspond with performance, they should insist that students learn the method used by the teachers, rather than following the instructions. It is also observed that after acquiring a technique of an action by reproducing the movements of one already accomplished in the art, the teacher should insist that students must repeat the actions many times before they can attain any useful degree of readiness. If there is no provision for repetition, it will result in producing amateurs rather than skilled performers. Onuka (2008) pointed out that no vocational education programme will

succeed without the provision, on a continuous basis of highly qualified and motivated teachers to drill the students.

Another necessary factor in skill teaching is the participation under typical conditions, as the actual work of the occupation. This condition is in agreement with one of the principles of vocational education which states that the establishment of process habits in any learner will be secured and in proportion as the training is given on actual jobs and not on exercise or pseudo jobs. (Okoro, 1993). This principle emphasizes that in order to complete the training of a student in a skill that is saleable in any occupational area, part of the practice must be had under actual production conditions. This principle can only be adhered to if the technical teachers are given adequate incentives necessary to reduce service delivery in this education sub-sector.

Teaching Qualities Needed by an Industrial Education Teacher

Many societal expectations are usually transformed into educational goals by the curriculum experts in consultation with other interest groups which are finally implemented by the classroom teacher (Okoha and Eneogwu, 1996). It could therefore be resolved that the core of formal education is pivoted on the instructional process of which the teacher is the pilot. Hence, the ultimate success of any curriculum design should depend on what the teacher makes of it, noting that the teacher can make a bad design bearable or a good design bad.

In the same vein, an industrial education teacher should be conversant with the instructional process. He should be knowledgeable enough on what makes up instructional objectives. He should know that instructional objectives are derived from educational goals. Inyang-Abia (1988) in Okoho (1996) defined instructional objectives as the proposed changes in the performance of the learner and following the successful execution of the planned instructional activities. This definition therefore suggests that successful learning can only take place when there is successful execution of planned instructional activities. An industrial education teacher therefore should also plan instructional activities and be able to implement them to make desired changes in the learner. The desired changes that are always expected of the learner are those observable behaviours which are stated on the lesson's objectives.

The teacher should be able to write good lesson plan that will guide his teaching. The instructional objectives are like destinations which must be reached and if they are not reached, the lesson is regarded as a failure.

The teacher should be conversant with the functions of behavioural objectives. It is expected that after the teacher must have prepared a functional instructional objectives, that he should be able to deliver it effectively in order to achieve the stated objectives. This could be done only when he has considered the means (methods and techniques) of getting there. Teaching method according to Okoha and Eneogwe (1996) is a recurrent pattern of teacher's behaviour, applicable to various subject matters, characteristics of more than one teacher and relevant to learning. This shows that no particular behaivour is recommended. It also suggests that no method is better than the other, that all should depend on the subject matter being handled. It is expected that the teacher therefore should be in a position to select the appropriate method in order to teach a particular lesson. Teaching methods which are mostly utilized in teaching industrial subjects include: project method, field trips, demonstration, problem solving method, role playing and lecture method which is only used during the introductory part of the lesson.

The ability of the teacher in utilizing appropriate media in teaching his lesson is very important. It has been observed that learning takes place at three levels, thus:

1) At the level of direct experiences
2) At the iconic (image or pictural) level and
3) At the symbolic level

The level of direct experience is a situation where the individuals see, hear, smell, taste and touch what is being learnt. This system is very good in teaching technical subjects/courses. It is also good in teaching apprenticeship pupil engineers, trainee accountants, housemanship for doctors, in organizations after such organization might have employed graduates fresh from schools. Iconic level of experiences is that level where the teachers substitute real experience, with images or pictures of the real things. The word "icon" means images. This method is not very suitable for teaching vocational subjects. This is because it is not in consonance with any of the principles of vocational education. At symbolic level, the object or event is neither first hand nor experienced through icons (images). The object or event is rather converted into a symbol-a printed word or formula which bears little or no resemblance to the reality it is trying to represent. This method is sparingly used in teaching vocational subjects. What is required of an industrial education teacher is that he should be able to learn how to combine the three levels discussed above in order to effect the desired changes on the students being taught. The ability of the teacher to combine the levels will go a long way in effecting skill development in the students.

Ukoha (1996) pointed out that teaching in the classroom is no longer conceptualized in the narrow sense as merely a matter of the teacher addressing a class, rather it is in a more comprehensive approach, the outcome or aggregate of a number of inter-related activities. He therefore observed that media in a classroom is the vehicle carrying the intended stimulus to be presented to the learners. Stimulus, in this context connects the knowledge, skills and affective behaviour embodied in the teachers' instructional package. Media in the teaching-learning process include man, devices, equipment, machines and materials designed to facilitate teaching and learning thereby fulfilling the stated objectives.

Conclusion

The urgent need to improve the quality and quantity of manpower especially in technical areas attracted attention of most of the commissions in Nigeria. Industrial education teacher has a multitude of responsibilities in developing competencies for effective teaching. The paper identified three qualities needed by an industrial education teacher for quality assurance in the teaching of technical courses and they include – social and psychological qualities, physical and teaching qualities. If an industrial teacher adequately possesses the identified qualities in this paper, there would be no doubt of achieving quality assurance in the teaching of technical courses.

Recommendations

i. An industrial education teacher should be a master of the subject-matter or the skill he teaches;
ii. The teacher should be resourceful and possess a good public relation qualities. He should maintain a good appearance and always dress neatly. He should be honest in his dealings with his students and other persons;
iii. An industrial education teacher should be healthy. This is because programmes in technical education require individuals full of physical dexterity. He should be self-discipline and conscious of safety practices while in business of teaching, and
iv. An industrial education teacher should be conversant with most of the methods that should be employed when teaching skills to the technical students. The teacher should bear all the objectives in mind so as to guide him during teaching session.

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