

USING INSTRUCTIONAL TECHNOLOGY FOR EFFECTIVE TEACHING OF VOCATIONAL SUBJECTS

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Abstract

This paper takes a look into how instructional technology can help in the teaching of vocational subjects like: Fine Art, Agricultural Science, Business Studies, Home Economics, etc., in secondary schools in Nigeria. As vocational education has come to stay in the country, the use of instruction technology resources should be empowered so as to create a challenge into the teaching and learning of vocational subjects a reality, and to be more at home in the grassroots environment. Also, this paper identifies shortage of instructional materials in many secondary schools as leading to a decline in students' ' reading and writing habits. Recommendations will be made to improve the teaching and learning of vocational subjects in schools.

Introduction

Vocational education has come to stay in Nigeria, and it concerns any occupational area or training which is connected with the skills, knowledge, etc., that one needs to have in order to do a particular job and thereby support a gainful living, Okoro (1995) explained that the central purpose of vocational education has been stated as that of equipping individuals with adequate skills and technical knowledge to enable them obtain employment and perform satisfactorily in their place of employment. In the Nigerian context, vocational education has five definite objectives which it must achieve if it is to make the necessary contribution to the development of the country. They are:

1. Training of individuals for initial employment;
2. Retaining of workers;
3. Giving support to the apprenticeship system;
4. reduction in the level of unemployment; and
5. Promotion of economic development.

Okoro (1995) further explained that vocational education aims at giving individuals the knowledge and skills they need in order to enter the occupations of their choice. Training for initial employment is the most important objective of vocational education as it makes it possible for them to obtain employment and teaches them the skills that will enable them perform well in their place of employment.

In this vein, therefore, it is pertinent to familiarize the teaching of vocational subjects like: Fine Art Agricultural Science, Business Studies, Home Economics, Computer Education, Introductory Technology, etc, through the use of instructional technology resources as ways of popularizing them among students in secondary schools. Also, the National Policy on Education (1998) says that vocational education main aim is 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".

Successive Teaching of Vocational Subjects In Nigeria

Aleburu (2002) explained that before the 1969 curriculum conferences, the type of education offered in Nigerian learning institutions was mainly academic, theoretical and not science or technology - based. In 1968, eminent Nigerians from all walks of life in Nigerian education arena, industry, religion, farming, insurance, manufacturing, political institutions and all other stakeholders, assembled to chart a new course for Nigerian education. The outcome of the assembly gave birth to the implementation of the New National Policy on Education in 1977, which have been revised in 1981 and 1998 respectively. At the junior secondary school level, students are taught subjects like: Introductory Technology, which is made up of Wood Work, Metal Work, Electronics/Electrical, Local Crafts, Business Education, Home Economics and Practical Agriculture.

At the secondary schools level, students are to study Fine Art, Home Economics, Financial Accounting (book-keeping), Typewriting, Shorthand etc.

It is worthy to note that the content of each subject is clearly stated in the School Curriculum and WAEC Syllabus, and also in the relevant textbooks. According to Aleburu (2002), he stressed that sometimes there is overlapping in the classifications. For instance, Agricultural Science is sometimes classed with vocational subjects, and at other times grouped with the sciences.

Additionally, the Federal Government has spent huge sums of money in the procuring and installing of technology equipment in junior secondary schools as well as training vocational and technical teachers in and outside the country.

Teaching Methods In Vocational Education

Osagie (1998) and Aleburu (2002) have stressed that vocational and technical subjects are more of practical than theory in nature. Moreover, they are equipment-based subjects, and so teaching them involves a lot of practice, hence the following methods are very essential:

- Demonstration of skills for students to see and practice. Written instruction.

Aleburu (2002) explained that the following steps might be of help:

- a) **Procedure:** Individual instruction, manuals, instruction on equipment, lab oratory/factory, etc.
- b) **Observation:** After the students have observed how some particular things are done, the teacher would observe them and see what they are doing so that the right attitudes, knowledge and skills are put into action at the same time, e.g. crop growth in a farm.
- c) **Lecturing/Teaching:** The teacher gives direct teaching on the subject matter by relating it with the practical lessons.
- d) **Laboratory Practices/Procedure:** In the laboratory, farm, or studio, activities that take place include: teacher demonstration, student demonstration and individual teacher experiments.
- e) **Project Method:** This could be individual or group. In this method, the teacher or lecturer acts as a guide and not as an instructor.
- f) **Conference:** During conferences, practitioners rub minds together, and new ideas develop which would pave the way for further research.

Field Trip

This is a situation where students gain practical knowledge by spending some time with practitioners of the discipline in their natural environment. This is possible through internship training or through field trip or excursion to related places, e.g. studio for fine art, farms, industries, workshops or galleries, hotels, etc.

Challenges Occasioned By The Use Of Instructional Technology In The Teaching Of Vocational Subjects

Balogun (1981) explained that instructional technology is the systematic planning to incorporate media into classroom instruction. It involves the systematic use of that audio-visual equipment which also include non-projected aids like visual symbols, still picture exhibits, connived experiences and dramatized experiences. Aleburu (2002) also added that non-projected aids do not require light source for projection. Projected aids on the other hand, are materials which, through machines could be projected-by means of electricity. They include opaque projection: transparencies, still projection, and cine projection. There are also audio aids which can be heard only, e.g., records, record players, tape recorders and radio. Besides, there are visual aids that can only be seen e.g., pictorials, mobiles, three dimensional, slides, filmstrips and transparencies. Audio visual aids on their part can be heard and seen. "These include: sound films and television. We use the term "three dimensional aids" to describe, teaching and learning materials with length, breadth and depth. Examples are: real objects, models, mock-ups and so on. Instructional technology listed above are "equally called instructional resources".

In this vein, Balogun (1981) and Aleburu (2002) explained further that instructional resources include human resources like:, teachers, instructors, professionals within and outside the classroom

that can contribute to the lesson. There are also resources places like industries, offices, museums, galleries, mechanized farms,' and' other outdoor places which can contribute to students' first-hand learning.

Erickson and Cur (1972) and Aleburu (2002) suggested some ways that could stimulate the challenges and effective teaching of vocational subjects:

a) **To Extend Students' Horizon of Experience**

In this way, the teacher can avail himself of the resources of instructional technology like films, transparencies, slides, pictures to "bring" into the classroom inaccessible processes, e.g., the movement of a piston or crankshaft in an auto-mechanic lesson. Also, it can also be used in an agricultural lesson like showing a lion.

b) **To Provide Students With Additional Meaningful Resources**

Also, the Home Economics teacher faced with hundreds of students in a 45-minute lesson on "Nutrition" can say very little within the time limit. The teacher can turn to additional knowledge to students.* Instructional television and radio if properly programmed can complement teachers' efforts and teaching in the school.

c) **Multiplying Teacher Effects**

As there is a shortage of vocational teachers today, instructional technology like video, radio plus programmed verbal and visual materials can effectively teach any science or technology lesson effectively, just like a human teacher. Also, television can carry a Fine Art teacher's instruction to any part of a school, town, country or the entire world at the same time, making it possible to multiply teacher effects.

d) **Overcoming Physical Barrier Of Presenting Subject Matter**

This is very common with Distant Learning Programmes, correspondence education, radio and television instruction, in such a way that students can acquire learning where-ever they are.

e) **To Develop Effective Skills in Students**

This is very common in the production or use of instructional technology like typing, accounts or physics lesson. It can expose students to effective learning-patience, team spirit, hard-work, selfless service and so on.

With the above resources inputs, they would certainly stimulate and challenge students learning of various skills in vocational education. According to Aleburu (2002), instructional technology can be used at any phase for a given lesson: introduction, development, organization, summarization and evaluation.

Problems

Some problems have been identified as standing against the effective usage of instructional technology in the teaching of vocational subjects. Some of them are as follows:

a. **Shortage of Instructional Materials**

There is an acute shortage of instructional materials in secondary schools for effective teaching and learning of vocational subjects. Many public schools do not have them. Lack of such equipment has marred the environmental replication of work in training, and as a result, half-baked beneficiaries will be produced.

b. **Scarcity of Technicians**

Another problem is the scarcity of technicians to repair any break-down equipment. Many of the available technicians do not really know the in-depth-know-how of the ways and means of repairing them. Most of them use the trial method of repairs, and in most cases, do more damage to the equipment.

c. **Lack of Constant Power Supply**

This is another problem that is going against the effective teaching and learning of vocational subjects through the use of instructional technology. Constant power fluctuations

which cause a lot of damage to the equipment, are on the increase. In some other cases, no electricity supply at all. Inadequate power supply in Nigeria is one of the major constraints for the use of automated equipment.

d. Effects of Wide Scale Corruption

There is wide scale corruption in every facet of Nigeria's economy, and has become a part and parcel of our national life. We hear of so many billions of Naira being budgeted for various developmental projects but nothing is forthcoming. What is very glaring is that the few available facilities are deteriorating. Unless something drastic to check the wide scale corruption, no meaningful development can take place.

Conclusion and Recommendations

This paper has taken into account the efforts made at ensuring that vocational subjects are studied in the secondary schools. The following recommendations are hereby made:

1. All stakeholders should endeavour to provide the necessary instructional equipment in our secondary schools. It would enhance the teaching and learning of vocational subjects which are very practical in nature.
2. All vocational subjects should be designed to integrate instructional technology.
3. There is need for adequate instructional technology training and retraining of vocational educators and their support staff.
4. Government, all stakeholders including citizens should find a quick solution to corruption which has become endemic in our society.

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