PERCEPTION OF TEACHERS AND DMINISTRATORS ON THE TEACHING METHODS EMPLOYED IN TEACHING MOTOR VEHICLE MECHANICS WORK IN NIGER STATE: A QUALITATIVE APPROACH

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Abstract
The study is designed to determine the perception of teachers and administrators on the teaching methods employed in the teaching of Motor Vehicle Mechanics work at technical college level in Niger State. Qualitative research design was adopted for this study. Purposive sampling technique was employed for the selection three MVM teachers and three administrators of technical colleges in Niger State. Semi-structured interview was conducted with the three selected MVM teachers as well as three administrators of the technical colleges. The interview was conducted by the researcher and fully recorded using audio recorder (Universal Serial Bus (USB) drive recorder in this case). The interview was fully recorded and played back for clarity. The researcher used content analysis technique in order to analyze the data from the interview conducted at the technical colleges. Based on the findings it was concluded that Motor Vehicle Mechanics work teachers at technical college level should adopt the use teaching methods such as Problem Based Learning, Project Based Learning, and Computer Based Instruction. These methods encourage collaboration, self-expression, open-mindedness, problem solving, decision making and self-reliance of the students.

Keywords: Motor Vehicle Mechanics, Qualitative Design, Teaching Methods, Technical College

Introduction

Technical colleges in Nigeria are considered as the major vocational institutions. They provide education and training which is geared towards the preparation of students for employment into different vocations (Audu, 2014). According to National Board for Technical Education (NBTE, 2001) technical college's programmes are classified into related trades, which include mechanical engineering trades, electrical/electronic trades, construction trades, miscellaneous trades and business trades. Motor Vehicle Mechanics (MVM) work is one of the mechanical engineering trades offered at technical college level in Nigeria. The expectation of the society and the graduates is that of gaining employment in automotive industries, establishing a repair/ maintenance shop or going for further studies after graduation.

However, the training of the students is based on the production of skilful individuals who are proficient in production of goods and services that are not only relevant to themselves but to the society (Udofia, Ekpo, Nsa & Akpan 2012). All technical courses, irrespective of their levels and objectives must be structured and made to stress practical activities. Johannsen (2012) stated that practical skills consists of the knowledge of methods, processes, procedures, and techniques for conducting a specialized task and the ability to operate tools and equipment related to that task. The process of learning will be more effective when the students are being exposed to the actual working condition by practically applying their knowledge and also the skills that they had learned. Akuezuilo (2007) posited that the basic science and technology curriculum, including vocational education, is very

practical in nature and should be taught through methods that make best use of the active participation of the learners.

Nevertheless, Kennedy (2011) reported that the trend in the methods of teaching in Technical Vocational Education and Training (TVET) programmes in Nigerian technical and vocational education schools is too theoretical with less emphasis on the teaching of practical skills. He therefore, stated that teachers use lecture method in most cases in all aspect of their teaching which also involve those topics that needed to be taught hands-on. While the result of the study shows how important the teaching approaches are towards the development of practical skills in MVM work students, Bello, Danjuma and Adamu (2007) conducted a study and postulated that, the hope and future of any nation depends on the future of its youths which require high resource investment for both long and short term benefits of the country. National Open University of Nigeria (NOUN, 2008) stated that a good teaching method should consider the ability of the learners in their various groups such as the average, below average and those above average. It should also be able to help the learner to make discoveries and also contribute to the learning activities.

Dar-Chin, Shao-Tsu, Yi-Ping and Ming-Hua (2006) postulated that, the world is a global village full of technological and economy based knowledge for people to prosper. Changes are being witnessed in society and industry, teaching and learning approaches, social values diversification etcetera, students can no longer be passive learners and take only what they could get from school alone. Peter, Abiodun and Jonathan (2010) further affirms the result of their study and stated that, students must adapt to changes in line with their levels of thinking on handling machineries and equipment so as to commensurate with the industrial needs. In order to achieve the national goals as stipulated by the Federal Republic of Nigeria (FRN) in the National Policy on Education (FRN, 2013) teachers should employ appropriate teaching methods in the teaching of TVET. Therefore, there is the need to seek for the perception of both teachers and administrators on the teaching methods employed in TVET.
Perception is the awareness, comprehension or an understanding of something. According to Collins English Dictionary (2009), perception is a person's "awareness, consciousness or view of a subject, topic or issue. The perception of MVM teachers and administrators is very important because they are in a better position to give valid and reliable information concerning existing conditions on the teaching methods employed in teaching MVM work at technical college level in Niger State The MVM work teachers' needs to use the right method of instruction in order to enable the students acquire practical skills for them to be employable at the end of the completion of their programme. It is on this premise that the study was designed to determine the perception of teachers and administrators on the teaching methods employed in teaching MVM work at technical college level in Niger State using qualitative approach.

Statement of the Problem

Technical Vocational Education and Training at the technical college level in Nigeria is designed to produce competent craftsmen for the different sector of the economy who are expected after graduation to be able to be gainfully employed. In spite of the importance of TVET to the development of both individuals and the society at large, there is no emphasis placed on the effective implementation of TVET programmes in Nigeria (Puyate, 2008). Uwaifo and Uwaifo (2009) observed that the way teaching is conducted in TVET in Nigeria is not impressive over the years. There is increasing concern by individuals, government and society over the preparation of technical college graduates in the country, since the graduates play a very important role in the communities, schools and development of the nation's economy. Audu (2014) further stated that the teaching techniques adopted by the teachers at technical college level in imparting knowledge to the students especially in MVM

work programme are so traditional where teachers only read out for students to take notes. All trade subjects at technical college level should be taught through methods that make best use of the active participation of the learners. It is against this backdrop that the study is designed to determine the perception of teachers and administrators on the teaching methods employed in teaching MVM work programme at technical college level.

Objectives of the Study

The main objectives of the study are to determine:

(i) The perception of teachers on the teaching methods employed in the teaching of MVM work at technical college level.

(ii) The perception of administrators on the teaching methods employed in the teaching of MVM work at technical college level.

Research Questions

The research questions that guided the conduct of the study are:

(i) What are the perceptions of teachers on the teaching methods employed in the teaching MVM work at technical college level?

(ii) What are the perceptions of administrators on the teaching methods employed in the teaching MVM work at technical college level?

Methodology

Qualitative research design was adopted for this study. Qualitative research is the tool that is used to collect data through the use of interview, document analysis and observation (Audu, 2014) The Qualitative research design is a form of social inquiry that focuses on the way people interpret and make sense of their experiences and the world in which they live (Atkin, Coffey & Delamont, 2001). Purposive sampling technique was employed for the selection three MVM teachers and three administrators of the technical colleges. Semi-structured interview was conducted with the three selected MVM teachers as well as the three administrators of technical colleges. The interview session was organized by the researcher after contacting the MVM work teachers and the administrators of technical colleges and booking appointment with them. The appointment was based on their schedule; interview was conducted by the researcher and fully recorded using audio recorder (Universal Serial Bus (USB) drive recorder in this case). The interview was fully recorded and played back for clarity. The researcher used content analysis technique in order to analyze the data from the interview and observation conducted at technical colleges.

Research Instrument and Participants

The qualitative data collected through a semi structured interview was transcribed, coded, organized and presented in Table 1 and 2. A total of six participants from the technical colleges participated in the interview. Responses generated were fully audio-taped and transcribed according to participants view. Participants were categorized as MVMT1, MVMT2, MVMT3, TCA1, TCA2 and TCA3, which depicts (Motor Vehicle Mechanics Teachers1, Motor Vehicle Mechanics Teachers2, Motor Vehicle Mechanics Teachers3, Technical College Administrator1 Technical College Administrator2 and Technical College Administrator3.

Research Question One

What are the perceptions of teachers on the teaching methods employed in the teaching of MVM at technical college level?

Table 1: Qualitative results of MVM teachers' perception on the teaching methods employed in the teaching of MVM work at technical college level

Participants	Cat.1 Applied Methods	Cat.2 ICT Based	Cat.3 Problem Based	Cat.4 Project Based
MVMT1	*Lecture method, demonstration method and project method*	*Computers are not available in the school.*	*Do not use problem based learning in the class*	*Used in the workshop practical lessons.*
MVMT2	*Demonstration method and Lecture method*	*Few computers in the laboratory*	*Give them problem to solve and group them*	*Given group project to carry out in the workshop*
MVMT3	*Lecture method. demonstration method, discussion*	*Do not use computer based instruction to teach*	*Group them so that they will think critically*	*Sometimes exposed to*

Table 1 reveals the results of an interview held with three participants out of the six participants from the technical colleges, the three participants are MVMT1, MVMT2 and MVMT3. The opinions of the three participants on the teaching methods employed by the teachers in the teaching of MVM were are analysed to yield four categories (applied method, ICT based, problem based and project based) as listed in Table 1 These (categories 1-4) emanated from the analysis of qualitative data after transcription, coding and theme identification. It can be observed from Table 1 that the teaching methods mostly applied in the teaching of MVM in the technical colleges as participant MVMT1 observed under category one (Cat. 1) (applied methods) are *Lecture method, demonstration method and project method*. Respondent MVMT2 equally feels that *demonstration method and lecture method are applied*, whereas MVMT3 is of the view that *lecture, demonstration, and discussion were used*.

The teaching methods employed in teaching MVM based on category two (Cat. 2) that has to do with ICT based instruction shows the opinion of participants MVT1, MVT2, and MVM3 which indicated that the *computers are not available in the technical colleges,* that is to say that there is no adequate provision of computers in the schools. This also implies that ICT based instruction is not utilised in teaching the students. Under category three (Cat. 3) respondent MVMT1 is of the view that the *teachers do not use problem based learning in teaching the students.* For participants MVMT2 and MVMT3 *the teachers normally group them together so that they discuss and think critically on how to solve problems*.

In a similar vein, the opinion of the interviewees on the fourth category (Cat. 4) as presented in Table 1 on whether the teachers use project based learning with the students *'used in the workshop practical lessons', 'given group project to carry out in the workshop', 'sometimes exposed to', a*re the opinions of MVMT1, MVMT2 and MVMT3 respectively. Based on their opinions it indicates that the students are normally exposed to project based learning during practically lessons.

Research Question Two

What are the perceptions of administrators on the teaching methods employed in the teaching of MVM at technical college level?

Table 2: **Qualitative results of administrators' perception on the teaching methods employed in the teaching of MVM work at technical college level**

Participants	Cat.1 Applied Methods	Cat.2 ICT Based	Cat.3 Problem Based	Cat.4 Project Based
TCA1	*Demonstration, project and lecture methods.*	*Computers in the school are not enough*	*Do not use problem based learning to teach the Students*	*Not exposed to as a result of Lack of tools, equipment and materials*
TCA2	*Demonstration method and lecture method*	*No adequate provision of computers in the school.*	*Not commonly used to teach the students*	*Sometimes gives the students project to carry out*
TCA3	*Demonstration method, lecture method, discussion and project method*	*Lack the knowledge to use or operate the computers*	*Do not use the problem based learning*	*Being utilized sometimes to teach the students*

Table 2 shows the results of the interview held with the remaining three participants (TCA1, TCA2 and TCA3). TCA1 is of the view that *lecture, demonstration, and discussion were used*. TCA2 is of the opinion that *demonstration, project and lecture methods are applied*. For TCA3 *demonstration and lecture methods were used.* The teaching methods employed in teaching MVM based on the Table 2 category two (Cat. 2) that has to do with ICT based instruction shows the opinion of participants, TCA1 indicated that the *computers are not available in the technical college, that is* to say that there is no adequate provision of computers in the schools. Presented in Table 2 is also the opinion of TCA2 stating that *teacher's do not use computer based instruction to teach the students*. TCA3 perceived that *lack of knowledge of the use or how to operate the computers* is the reason why the teachers are not using computer based instruction to teach the students.

Respondents TCA1, TCA2 and TCA3 opinions on the use problem based learning clearly indicate that the *teachers do not engage the students to problem based learning during instruction in the classroom.* In a similar vein, the opinion of the interviewees on the fourth category (Cat. 4) as presented in Table 2 on whether the teachers use project based learning in teaching the students TCA1 is of the view that the students are *'not exposed to as a result of lack of tools, equipment and materials'.* For TCA2 and TCA3 the students are *'sometimes gives the students project to carry out and being utilized sometimes to teach the students'* are *the* opinions of the respondents respectively.

Discussion

The result of the study based on the applied method of teaching in the technical colleges revealed that the teaching methods applied by MVM teachers for the development of skills and training of the students in the technical colleges were basically lecture and demonstration methods. The lecture method of teaching is teacher centered method. Students' participation is very little. Students are only needed to listen and think logically on what they listen to and probably comprehend the information being received (Okoro, 1993). Teachers should resist in their attempt to give long lectures as such lectures are mostly boring and are not capable of arousing and sustaining the students' interest. Therefore, the results of this research agrees with Kennedy (2011) who stated that the trends in the in instructional approach in TVET instructions in Nigeria is too theoretical without much

importance stressed on the acquisition of practical skills. He therefore, affirmed that most teachers make use of lecture method in almost all circumstances in every parts of their instruction including topics that required the use of other instructional methods. Similarly, in order to realize the aims and objectives of TVET as specified in the National Policy on Education (Federal Republic of Nigeria FRN, 2013) teachers must utilize appropriate teaching methods in the teaching of TVET. However, the researchers are of the view that in order for the lecture method of instruction to be more effective, it should be integrated with other instructional methods such as demonstration and project methods.

Demonstration is a teaching method that allows students to take part in processes and practices that shows particular skills, values or ideas. Akinseinde (1990) observed that demonstration method involves processing; construction, production, assembling, servicing and maintenance which is very suitable for psychomotor skills development. Edu, Ayang, and Idaka, (2012) asserted that demonstration method of teaching is the widely most used teaching method for acquisition of concrete skills because it involves the use of oral and real illustration of a particular process. They further added that this method of teaching is very effective since it requires active involvement of the learners in the learning processes. The researcher is of the view that demonstration method of teaching is recommended in several quarters as one of the most suitable method of teaching in practical, science, technical and vocational education.

In line with this, Okoro (1993) advocates the usage of demonstration method for the teaching of TVET, by way of developing the psychomotor and cognitive skills; though it is generally linked with psychomotor skills, with lesser emphasis on academic or cognitive skills improvement. On the other hand, it is usually unrealistic to state that skills development can only be physical in the absence of intelligence. Effiong (1998) advocated that skills are categorized into real (psychomotor) and intellect (cognitive) domains. Demonstration as an instructional method is generally being utilized by teachers and instructors' in TVET to explain exactly how a procedure, process is being carried out so as to assist the student in learning and developing the skills. It is a very effective teaching method that is utilized in TVET programmes. Demonstration is normally conducted to illustrate to the student exactly what is supposed to be done, why it is organized in a specific manner, in what way to do it, and exactly how to use the skills or techniques that is presented.

The findings of the research results revealed that teacher's do not use computer based instruction to teach the students. The reason why almost all the respondent are of the opinion that the MVM teachers in the technical colleges do not use computer based instruction to teach the students in the classroom is that most of the teachers are not knowledgeable on how to use and operate the computer, therefore they may find it difficult to use computer based instruction to teach the students. Almost all the technical colleges in Niger State are not well equipped with computers and other ICT facilities.

Furthermore, many researchers support the use of ICT in educational undertakings. Zirkle (2002) noted that technologies, like computer, ensure sound educational experiences. He reported that students taught with both traditional methods and the internets do better than those who are only taught using the traditional methods. Day, Raven and Newman (1998) confirmed that students taught using ICT perform better than those who are taught using the traditional classroom approach. Wang (2010) stated that teaching TVET through the use of CBI enhances students learning and assists in eradicating human factor that is common in the traditional teaching approach. Therefore, the students become more acquainted to various skills through drills, exercises and practice when the training set and process offers suitable environment with different learning platforms. In the modern

information age, the knowledge of ICT and the utilization of ICT for instruction have become extremely essential to TVET teachers. The worth and value of ICT in the training programmes of TVET have being realized by TVET teachers. Though, most of them do not have the knowledge and skills needed to make use of it efficiently and effectively for the purpose of instruction. To ensure that TVET continue to remain useful in teaching learning processes, TVET programmes must of necessity keep on enriching its programmes in order to train and prepare the students for the labor market and the industries. For the teachers to be able to do that, they must keep on valuing ICT and search for ways to link programmes and instructions with suitable ICT, specifically the Internet.

Therefore, in the present-day knowledge economy and educational system, ICT based instruction has developed to be an effective mechanism for teaching learning processes. The continuous growth in computer skills, abilities and knowledge of its application and usage in our daily life is of immense significance to the teachers and students. The teacher acts as a mechanism of change between technology and the student and also performs a major responsibility in teaching learning of the TVET programmes (Buntat, Saud, Dahar, Arifin & Zaid, 2010). Teachers' proficiency in ICT usage is very essential if they are to be professional teachers as they utilize and impart these skills to the students. Indeed, the knowledge of the foundation of ICT and its application is a must for all teachers, instructors and students (Kotrlik & Smith, 2000). Lu (2002) noted that ICT and its application have a great impact on instruction and learning in TVET programmes.

Based on the result from qualitative data analysis which clearly indicates that the teachers do not engage the students to problem based learning during instruction in the classroom. The Problem Based Learning (PBL) relates to an instructional method in which the teacher develops his instruction around a real problem and supports students to discuss the problem in small groups, with the aim to of cultivating active learning, critical thinking, and problem solving skills amongst themselves. Facts have revealed that PBL is an effective tool to promote students developing critical and creative thinking skills as well as improve their innovation capabilities through the process of problem solving (Dar-Chin, *et al.,* 2006). PBL is a method of instruction aimed at cultivating students' ability to study actively, to think critically and to solve problems through an instructional process that concentrates on actual problems and inspires students to have group discussion (Dar-Chin *eta l.,* 2006). PBL helps students to learn jointly in a group form, understanding and applying knowledge through discussion, deduction and induction. It also inspires students to solve problems through creative and innovative skills (Shao-Tsu, Yi-Ping & Yu-Wen, 2004). The MVM teachers in the technical colleges must adopt PBL as method of instruction in schools so that learning can take place in group apart from gaining of knowledge also it enables numerous other qualities which include teamwork skills, communication skills, and problem solving, and sharing information, independent responsibility for learning and respect for others.

The results of the study indicated that students are usually organised by teachers into groups to undertake individual or group project during classroom instruction. The PoBL enables the learner to actually practice on his own as an individual or in group; this enables the students to have real life experience by way of doing things on their own Cheng, Lam and Chan (2008) stated that PoBL is a teaching method that highlights on the importance of practical knowledge in teaching learning. Tanner (2011) observed that PoBL is significant, challenging, and realistic. As the projects tackle real problems and involves in addition to expecting the students to finish important tasks, the learning is also pertinent to real life situations.

In support of this, Abdul-Rahman, Daud, Jusof and Ghani, (2009) conducted a study on PoBL trainings in Politeknik Kota Bharu, Malaysia. The research examines the use of PoBL unit in the area of project development for the Mechanical Engineering students. This research focuses on the improvement of PoBL unit established on socio-constructivist method. The objective of the research is to investigate on the effect of the use of PoBL unit on students' meta-cognition, motivation and self-regulation. The result of the research indicates that virtually, all the students registered greater level of motivation, self-regulation and self-confidence all over the process. PoBL similarly increases the cognitive and critical thinking in industrial problem solving amongst students. The uses of PoBL units allow students to design their project easily and conveniently, work as a team with colleagues without much supervision from their lecturers or instructors and effectively complete their project in time. The positive response from the outcome of the research can be utilized by administration to use the PoBL idea to other fields and departments.

Similarly, the results of the research also concurred with that of Lester and Costley (2010) who carried out a study to investigate the efficiency of PoBL in an advanced level of education institutions in United Kingdom. They realized that a great deal of the learning is out of the range of what advanced level of education institutions could realistically be liable to be involve with because academically the level is too low. Though, there is still a great amount of learning activities that are involved with advanced level skills and education and with the improvement and utilization of wide-ranging, advance level skills that suggests that it has the capability to be accepted and improved through university participation. With respect to this, the researcher is of the view that this teaching method stresses on and allows student to be keenly involved in the acquisition of the needed skills and competence to be able to proffer solutions to the questions or problems through collaboration and team work.

Conclusion/Recommendations

The primary objective of teaching in TVET is to instruct the students in both practical and theory of the subject matter. Unfortunately, this is said not to be so in the technical colleges. The teaching methods mostly adopted by MVM teachers in technical colleges is lecture method, which does not allow for the students to acquire real life experience to be competent in terms of practical skills acquisition. Therefore, MVM teachers should adopt the use teaching methods such as PBL, PoBL and CBI which are child centred method of instructions. These methods encourage collaboration, self-expression, open-mindedness, problem solving, decision making and self-reliance.

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