

# Techniques for Enhancing Students Participation in Automobile Mechanical Works in Technical Colleges in Rivers State, Nigeria

Ochogba, Chukwumela Obulor<sup>1</sup> and Ordu Charles Ndu<sup>1</sup>

<sup>1</sup>*Department of Vocational and Technology Education, Rivers State University, Nigeria*

**Abstract:-** This study investigated the Techniques for enhancing student's participation in automobile mechanical works in technical colleges in Rivers State. A descriptive survey design guided this study. The population of the study comprised 40 automobile mechanical works teachers in four technical colleges in Rivers State. The study population was manageable therefore the entire population was adopted as the sample size for this study. Two research questions were answered and tested at a 0.05 level of significance. The instrument of the study was a survey questionnaire that was partitioned into two sections, structured in the pattern of 5 point Likert rating scale of agreement. The instrument for this study was validated by two experts and was tested for reliability using Cronbach Alpha reliability coefficient. The reliability coefficient achieved was 0.74. Mean and Standard Deviation were used to answer the research questions, while t-test statistical tool was used to test the hypotheses. The study found that the use of real life materials, regular practical assignment to students, regular evaluation of students, using concept map to aid learning, grouping students during instruction, relating lessons to real life situations and students personal experience, taking students on field trip, adoption of multimedia for teaching, individualized teaching, motivation of teachers, motivation of students, regular supervision of school activities, effective planning of school activities and regular probing of students to ascertain the achievement of school goals are the techniques that can enhance student's participation in automobile mechanical works in technical colleges in Rivers State. Therefore, this study recommends that school administrators should cultivate good relationship with parents so that students welfare and performance can be ascertain and possible solutions proffered for better participation in automobile mechanical works.

**Keywords:** Automobile Mechanical Work, Participation, Subject, Technique, Technology.

## I. INTRODUCTION

Today, Technology advancement in the world has resulted in the introduction of different types of training institutions such as technical colleges, to help train manpower who will function in different sectors. According to Okoro (2006), technical college is an institution that gives full vocational training intended to prepare students for entry into various occupations. Therefore, technical college could be described as an institution that prepares individuals with technical skills relevant for employment, self-reliance or for admission into technical related course in tertiary institutions.

To achieve this, different subjects are taught to help train students in different fields of technology. Automobile Mechanical Works is one of the technical subjects offered in most technical colleges and senior secondary schools in Nigeria. Automobile Mechanical Works is one of the mechanical trades offered as Motor vehicle mechanics work trades in the technical colleges in Nigeria (Fadairo, 2009). Automobile Mechanical Works involves the application of scientific knowledge in the design, selection of materials, construction, operation and maintenance of the motor vehicles (McGraw in Tumba & Shuaibu, 2016). The goal of Automobile Mechanical Works subject in Nigeria technical colleges is to produce competent vehicle mechanics with sound theoretical knowledge that should be able to diagnose and carryout repairs and/or maintenance on all types of Diesel and Petrol Vehicles (Nigeria Board for Technical Education in Fadairo, 2009). The curriculum of Automobile Mechanical Works in Technical Colleges and Senior Secondary Schools is made up of five components namely; general education subjects, trade, theory, relative studies and workshop practice.

Consequently, the introduction of Automobile Mechanical Works in technical colleges is expected to develop manpower that can handle automotive repairs upon their graduation. With this, so many youths can be taken off the streets. This is in line with Ochogba and Amaechi (2018) that the acquisition of technical skills which include Automobile Mechanical Works skills, encourages self-employment, provides diverse job opportunities, employment, provide the required job attitude and the ability to take up contracts. This means that students who acquire Automobile Mechanical Works skills in technical colleges can be self- employed and the significance of this according to Ochogba and Amaechi (2018) is that it will re-orient youths thereby making them shun criminal and other social activities that could pose as security threat to the society. Therefore, the importance of Automobile Mechanical Works as a subject in technical colleges could not be over-emphasis.

It therefore means that students in Automobile department in technical colleges ought to be fully active and should participate actively in theoretical and practical activities in the school. According to a classic definition, participation is described as involvement (Vroom in Dodi, 2014). In this

context, participation could be described as the involvement of students in Automobile Mechanical Works subjects. For this to be made possible, researchers believe that teachers have great role to play. Ogwu and Oranu (2006) opined that a teacher of vocational and technical subject must not only teach but must use activity-based techniques (such as project and field trip methods) that will enhance students' acquisition and sustenance of knowledge, skills and self-concept formation as well as interest. Therefore, technique employed in teaching Automobile Mechanical Works is paramount.

Swanso and Torraco (1994) described technique as a well planned series of action, for achieving an aim especially success against an opponent. From the foregoing, technique could be described as a step by step approach to achieving a goal. Udoutin (2001) stated that for students to acquire practical skills for effective participation is a function of effective and efficient teaching techniques, appropriate evaluation methods and utilization of standard teaching materials; tools, machines, and equipment to ensure the production of desired graduates with practical skills. This confirms the fact that teachers are supposed to employ several techniques like instructional, supervisory, among others, to help students participate fully.

Instructional techniques according to Ukoha and Eneogwe (1996) are specific acts adopted by veteran teachers to inject variety into their teaching, stimulate it and maintain the learner's interest on the subject. Instructional techniques that could enhance student's participations are improvisation techniques, use of sign or finger language as communication medium, use of Morse-codes, use of projectors, gradual explanation of topics and explanation of concepts using images and materials (Tumba & Shuaibu, 2016). On the other hand, Ukeje in Tumba and Shuaibu (2016) stated that supervisory techniques is concerned with effort of the administration by stimulating, directing and coordinating the students and their efforts, cultivating good personal relationship that moves collectively towards a more efficient performance of all the functions that lead to goal achievement.

Despite the fact that practical subjects like Automobile Mechanical Works should be properly taught, Elmo in Tamuba and Shuaibu (2016) stated that Automobile Mechanical Works is not effectively taught and learnt in most Nigerian schools. Udofia, Ekpo, Nsa and Akpan (2012) reported that wrong approach to teaching and evaluation of practical subjects in technical colleges rather than impart skills to students, produce students who are ill-equipped with practical skills, inadequate creative power and unable to secure employment. Basically, it is necessary for research to be carried out in this direction. Although researches have been made on techniques to enhance student's participation, but much have been done on Automobile Mechanical Works in Rivers State. Therefore, this research work will examine the techniques for enhancing student's participation in Automobile Mechanical Works subject in technical colleges in Rivers State.

### *Statement of the Problem*

Automobile Mechanical Works is one of the subjects that were introduced to help develop manpower who can be involved in motor maintenance and repair. The essence of this is to empower youths with saleable skills that can put food on their tables thereby diverting their attention from crime, at the same time saving the society from insecurity. This is to say that if youths can be fully involved in acquisition of skills like in Automobile Mechanical Works, the insecurity menace that has bedevilled our societies may be ameliorated. Unfortunately, there is this perception that most of our youths do not want to get involved in acquisition of skills. According to Okafor (2002), majority of the students in senior secondary schools and technical colleges feel reluctant to study Automobile Mechanical Works and that majority of the students who offer this subjects in technical colleges are not genuinely interested in it but either forced by their parents to offer the course or enrol in the subject to complete their course. This could be the reason why some technical college graduates cannot fix minor automobile works. This is an issue of concern owing to the fact that youths today are supposed to be job creators since there are no enough white collar jobs that can absorb those who are qualified for it. However, Fadairo (2009) stated that for students to fully participate in the study of Automobile Mechanical Works there should be the introduction of some strategies that will help motivate, develop their interest and passion for the subject. Basically, it is paramount for teachers to be acquainted with techniques that can captivate students' interest in learning practical subjects like Automobile Mechanical Works in technical colleges for them to acquire skills and become self-reliant thereby reducing the number of youths without jobs, hence reducing crime in the Rivers State. This is very important considering the fact that Rivers State is striving to mitigate insecurity. It is against this backdrop that the researcher decided to examine the techniques for enhancing student's participant in automobile technology subject in technical colleges in Rivers State.

### *Purpose of the Study*

This study examined the techniques for enhancing student's participation in Automobile Mechanical Works subject in technical colleges in Rivers State. Specifically, this study sought to:

1. Ascertain instructional techniques that can enhance student's participation in Automobile Mechanical Works subject in technical colleges.
2. Examine the administrative techniques that can enhance student's participation in Automobile Mechanical Works subject in technical colleges.

### *Research Questions*

1. What are the instructional techniques that can enhance student's participation in Automobile Mechanical Works subject in technical colleges?

2. What are the administrative techniques that can enhance student's participation in Automobile Mechanical Works subject in technical colleges?

### Hypotheses

The following null hypotheses were tested at a 0.05 level of significance.

1. There is no significant difference in the mean responses of Automobile Mechanical Works teachers and instructors in technical colleges in Rivers State on the instructional techniques that can enhance student's participation in Automobile Mechanical Works subject.
2. There is no significant difference in the mean responses of Automobile Mechanical Works teachers and instructors in technical colleges in Rivers State on administrative techniques that can enhance student's participation in Automobile Mechanical Works subject.

## II. METHODOLOGY

Descriptive survey design was used for this study. The area of this study was Rivers State. The population was 40 Automobile Mechanical Works teachers and instructors in the four technical colleges in Rivers State which comprised 20

Automobile Mechanical Works teachers and 20 Automobile Mechanical Works instructors in Government Technical College Ahoada, Port Harcourt, Tombia and Ele-Ogu. Due to the fact that the population was small and manageable, it was used as the sample size; hence there was no sampling technique used and the sample size was 40. Structured survey questionnaire titled "Techniques for Enhancing Student's Participations in Automobile Mechanical Works" (TESPAMW) served as the instrument for data collection. The instrument was partitioned into two sections (A & B) that were structured in the pattern of Likert 5-point rating scale of agreement. The face validity of the instrument was ascertained by two experts in the Department of Vocational and Technology Education, Rivers State University. More so, the instrument was subjected to test of reliability using Cronbach Alpha reliability Coefficient method. The reliability coefficients established was 0.74. Copies of the instrument were administered and retrieved by the researchers at the spot. Mean and Standard Deviation were used to answer the research questions while t-test statistical tool was used to test the hypotheses. Mean scores < 3.00 were rejected while Mean scores  $\geq 3.00$  were accepted.

## III. RESULTS AND DISCUSSION OF FINDINGS

Table 1: respondent's opinion and result of hypothesis on instructional techniques that can enhance student's participation in Automobile Mechanical Works subject

Instructional techniques	Auto Mech Work teachers (n <sub>1</sub> =20)		Auto Mech Work instructors (n <sub>2</sub> =20)		GM	t-cal	t-crit	Remark
	M	SD	M	SD				
1 the use of real life materials	3.15	0.79	3.00	0.84	3.08	0.57	2.02	NS
2 regular practical assignment to students	3.05	0.67	3.10	0.94	3.08	0.18	2.02	NS
3 regular evaluation of students	3.05	0.69	3.40	0.66	3.23	1.60	2.02	NS
4 using concept maps to aid learning	3.15	0.74	3.45	0.67	3.30	1.31	2.02	NS
5 grouping of students during instruction	3.25	0.62	3.35	0.65	3.30	0.49	2.02	NS
6 relating lessons to real life situations and students personal experiences	3.30	0.71	3.50	0.59	3.40	0.94	2.02	NS
7 taking students on field trip	3.00	1.00	3.05	0.86	3.03	0.17	2.02	NS
8 adoption of multimedia for teaching	3.20	0.84	3.35	0.73	3.28	0.59	2.02	NS
9 individualized teaching	3.15	0.66	3.35	0.65	3.25	0.94	2.02	NS
10 regular supervision of practical activities	3.05	0.83	3.06	0.97	3.06	0.03	2.02	NS

Source: field survey, 2019

Table 1 on the instructional techniques that can enhance student's participation in Automobile Mechanical Works subject in technical colleges, shows that respondent in both categories accepted the highlighted instructional techniques as strategies that can enhance students' participation in

Automobile Mechanical Works subjects in technical colleges. This is evident in the mean responses which shows that Automobile Mechanical Works teachers accepted that the use of real life materials (3.15), regular practical assignment to students (3.05), regular evaluation of students (3.05), using

concept map to aid learning (3.15), grouping students during instruction (3.25), relating lessons to real life situations and students personal experience (3.30), taking students on field trip (3.00), adoption of multimedia for teaching (3.20), individualized teaching (3.15) and regular supervision of practical activities (3.05) are instruction techniques that can enhance students participation in Automobile Mechanical Works subjects in technical colleges in Rivers State. On the other hand, Automobile Mechanical Works instructors accepted that the use of real life materials (3.00), regular practical assignment to students (3.10), regular evaluation of students (3.40), using concept map to aid learning (3.45), grouping students during instruction (3.35), relating lessons to real life situations and students personal experience (3.50), taking students on field trip (3.05), adoption of multimedia for teaching (3.35), individualized teaching (3.35) and regular supervision of practical activities (3.06) are instruction techniques that can enhance students participation in Automobile Mechanical Works subjects in technical colleges

in Rivers State. Furthermore, the t-cal for each of the variables was < the t-crit of 2.02. Therefore, all the variables were accepted which means that there was no significant difference in the mean responses of Automobile Mechanical Works teachers and instructors in technical colleges in Rivers State on the instructional techniques that can enhance student's participation in Automobile Mechanical Works subject for all the items. This finding is in line with Udoutin (2001) which stated that for students to acquire practical skills and for effective participation are function of effective and efficient teaching techniques, appropriate evaluation methods and utilization of standard teaching materials; tools, machines, and equipment to ensure the production of desired graduates with practical skills. Also, Tumba and Shuaibu (2016) states that instructional techniques that could enhance student's participations are improvisation techniques, use of sign or finger language as communication medium, use of Morse-codes, use of projectors, gradual explanation of topics and explanation of concepts using images and materials.

Table 2: Respondent's opinion and result of hypothesis on administrative techniques that can enhance student's participation in Automobile Mechanical Works subject in technical colleges

Administrative techniques	Auto Mech Work teachers (n <sub>1</sub> =20)		Auto Mech Work instructors (n <sub>2</sub> =20)		GM	t-cal	t-crit	Remark
	M	SD	M	SD				
1 motivation of teachers	3.25	0.99	3.55	0.49	3.40	1.18	2.02	NS
2 motivation of students	3.25	0.82	3.05	0.97	3.15	0.64	2.02	NS
3 regular supervision of school activities	3.20	0.81	3.05	0.83	3.13	0.56	2.02	NS
4 effective planning of school activities	3.00	0.89	3.40	0.58	3.20	1.64	2.02	NS
5 regular probing of students to ascertain the achievement of school goals	3.10	0.76	3.15	0.73	3.13	0.21	2.02	NS
6 provision of modern equipments	3.20	0.59	3.15	0.85	3.18	0.21	2.02	NS
7 orientation of new students of their goals and objectives	3.25	0.77	3.50	0.50	3.30	1.19	2.02	NS
8 good communication network between teachers and students	3.05	0.83	3.06	0.97	3.06	0.03	2.02	NS
9 good relationship with parents	3.30	0.71	3.50	0.59	3.40	0.94	2.02	NS
10 effective use of disciplinary measures on erring students	3.25	0.77	3.45	0.49	3.35	0.96	2.02	NS

Source: field survey, 2019

The result in table 2 on the administrative techniques that can enhance student's participation in Automobile Mechanical Works subject in technical colleges shows that Automobile Mechanical Works teachers accepted that motivation of teachers (3.25), motivation of students (3.25), regular supervision of school activities (3.20), effective planning of school activities (3.00), regular probing of students to ascertain the achievement of school goals (3.10), provision of modern equipments (3.20), orientation of new students of their goal and objectives (3.25), good communication

network between teachers and students (3.05), good relationship with parents (3.30) and effective use of disciplinary measures on erring students (3.25) are administrative techniques that can enhance student's participation in Automobile Mechanical Works subject in technical colleges. On the other hand, Automobile Mechanical Works instructors accepted that motivation of teachers (3.55), motivation of students (3.05), regular supervision of school activities (3.05), effective planning of school activities (3.40), regular probing of students to ascertain the achievement of

school goals (3.15), provision of modern equipments (3.15), orientation of new students of their goal and objectives (3.50), good communication network between teachers and students (3.06), good relationship with parents (3.50) and effective use of disciplinary measures on erring students (3.45) are administrative techniques that can enhance student's participation in Automobile Mechanical Works subject in technical colleges. Furthermore, the t-cal for each of the variables was < the t-crit of 2.02. Therefore, all the variables were accepted which means that there was no significant difference in the mean responses of Automobile Mechanical Works teachers and instructors in technical colleges in Rivers State on administrative techniques that can enhance student's participation in Automobile Mechanical Works subject for all the items. This finding is in line with Ukeje in Tumba and Shuaibu (2016) which states that supervisory techniques is concerned with effort of the administration by stimulating, directing and coordinating the students and their efforts, cultivating good personal relationship that moves collectively towards a more efficient performance of all the functions that lead to goal achievement.

#### IV. CONCLUSIONS

From the result of this study, it was deduced that the use of real life materials, regular practical assignment to students, regular evaluation of students, using concept map to aid learning, grouping students during instruction, relating lessons to real life situations and students personal experience, taking students on field trip, adoption of multimedia for teaching, individualized teaching and regular supervision of practical activities are instruction techniques that can enhance students participation in Automobile Mechanical Works subjects in technical colleges. Also, motivation of teachers, motivation of students, regular supervision of school activities, effective planning of school activities, regular probing of students to ascertain the achievement of school goals, provision of modern equipments, orientation of new students of their goal and objectives, good communication network between teachers and students, good relationship with parents and effective use of disciplinary measures on erring students are administrative techniques that can enhance student's participation in Automobile Mechanical Works subject in technical colleges in Rivers State.

#### V. RECOMMENDATIONS

Based on the conclusions made, the following recommendations were made:

1. Teachers should adopt the use of multimedia for teaching Automobile Mechanical Works subjects to facilitate learning and also to ensure students effective participation in Automobile Mechanical Works subjects.
2. School administrators should cultivate good relationship with parents so that students' welfare and performance can be ascertained and possible solutions proffered for better participation in Automobile Mechanical Works subjects.

#### REFERENCES

- [1]. Dodi, W. I. (2014). University of Brawijaya, Faculty of Economics and Business, Management Department, Jl. M.T. Haryono No. 165, Malang, 65145 East Java, Indonesia presentation report.
- [2]. Fadairo, O.O. (2009). *Strategies for improving the interest of automobile technology students in technical colleges in Ogun State*. A thesis presented to the department to vocational teacher education, University of Nigeria, Nsukka.
- [3]. Ochogba, C.O. & Amaechi, O.J. (2018). The influence of technical skills acquisition in curbing insecurity challenges in Rivers State. *International Journal of Education and Evaluation*, 4(2), 19-26.
- [4]. Ogwo, B.A. & Oranu, R.N. (2006). *Methodology in formal and non-formal technical and vocational education*. Enugu: University of Nigeria Press.
- [5]. Okafor, I. P. (2002). *Affective influences that affect the study of electrical installation in technical colleges in Imo State*. An unpublished B. Sc project, University of Nigeria Nsukka.
- [6]. Okoro, O. M. (2006). *Measurement and evaluation in education*. Obosi: Pacific Publishers.
- [7]. Swanso, R.A. & Torracco, R.J. (1994). Technical Trainings: Challenges and goals. *Technical and Skills Training* 5(8), 18-22.
- [8]. Tumba, I. & Shuaibu, H. (2016). Strategies for improving students' acquisition of practical skills in electrical installation and maintenance work trade in technical colleges in Kano State. *The International Journal of Engineering And Science*, 5(10), 30-40.
- [9]. Udofia, A.E., Ekpo, A.B., Nsa, S.O. & Akpan, E.O. (2012). Instructional variables and students' acquisition of employable skills in vocational education in Nigerian technical colleges, *International Journal of Engineering and Social Science*, 2 (7), 13-15.
- [10]. Udoutin, M.P. (2001). Individualizing pre-vocational education programme in secondary school. *International Journal of Educational Development*, 4 (11), 1-5.
- [11]. Ukoha, U.A. & Eneogwe, U.N. (1996). The instructional process in B.A. Ogwo (ed). *Curriculum development and educational technology*. Markudi: Onaivi Printing & Publishing Co.