

WORK SKILLS NEEDED BY UNDERGRADUATES TO ENHANCE GOOD GOVERNANCE IN RIVERS STATE

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ABSTRACT

The study investigated work skills needed by undergraduates to enhance good governance in Rivers State. Two research questions were posed and hypotheses were formulated to guide the focus of the study. The population of the study consists of 29 instructors drawn from three universities in Rivers State. No sample was taken considering the manageable size of the population. A self-developed instrument was used to elicit information from the respondents. Three experts validated the instrument. Test-retest method was adopted to determine the reliability of the instrument. Mean and standard deviation was used to answer the research questions while ANOVA statistical tool was employed to test the hypotheses. The finding revealed 10 technical skills needed by undergraduates of motor vehicle mechanic unit to maintain ignition system to enhance good governance, 10 technical skills needed by undergraduates of motor vehicle mechanic unit to maintain and repair fuel system of modern motor vehicle to enhance good governance in Rivers State. Based on these findings, recommendations were made that government should ensure regularly supply modern tools and equipment of motor vehicle to university workshops as to update the skills of the student, also the undergraduates should be practically trained for the period of 18 months in the motor vehicle industries to pave way for better understanding of the work skills needed to repair ignition and fuel system among others.

Keywords: *Formal Education, Education, TVET, Work skills, Good governance*

INTRODUCTION

Formal education is officially an organised setting designed with a specific standard and purposes in a mark out serene environment that will enhance the process of teaching and learning within structured facilities. Eze, Ezenwafor and Molokwu (2015) opined that formal education is a mean of imparting and acquiring knowledge within the four walls of a school. The school system is established to facilitate teaching and learning in order to empower students with knowledge and skills for positive living in the society through education.

According to Bolapeju and Ukoette (2018) education has been adopted as an instrument par excellence for all round sustainable nation development. The goal of education of any level is to ensure that recipients acquired the ability to analyse, see relationship and make accurate judgement, learn and follow, think critically and creatively, use scientific methods and be involved in problem-solving. Ogedi, Bappah and Nwilu (2017) further maintained that education serves as a mechanism that transforms individuals to realize its potential and be aware of situation around his environment or society. Education is a vital tool for piloting the affairs of any nation and it also helps to prepare citizens to take up responsible duties in the society. One form of education that equips its recipient adapts to determine the administrative structure of governance is Technical and Vocational Education and Training (TVET) (Bolaji, 2017).

TVET is a form of education that particularly seeks to equip individuals with capacities, skills, knowledge and understandings in a specific vocation or trade to enable such individuals become productive citizens of their nations and also to enable the individuals live productive and meaningful lives (Chinedu and Olabiyi, 2015). In the view of Marufu (2017) TVET play a vital and indispensable role in the development of Nigeria such as to improve system level governance, engage social partnership in planning technical and vocational education and training. Consequently, TVET is seen as an instrument needed by undergraduates to usher in and enhance good governance through the utilization of acceptable work skills expected to be exposed to undergraduates with the aim to be relevant in the world of works and engage them towards meaningful ventures upon graduation. Hence, acquiring work skills in maintaining and repairing motor vehicle mechanic (MVM) in the university will disabuse the minds of the youths from engaging in social vices which seem to have threatened good governance in most nation like Nigeria. According to UNESCO in Wapmuk (2011) TVET has one of its core goals and aims the quest of preparing people employment and also to be as a source of change for people in the world of work, through which these individuals can aspire to have better life and understanding of the trend in the society, develop the necessary technical skills needed to be exposed such aspirations. TVET courses include Business Services, Construction, Electro-Technology, Entertainment, Hospitality, Information Technology, Metal and Engineering, Primary Industries, Retail, Tourism and Motor vehicle mechanic (Mechanical, Vehicle Painting, Panel beating, and Electrical) (Marufu, 2017).

Motor Vehicle mechanic (MVM) is one of the vocational training programme offered in the mechanical engineering workshop in universities and in the mechanical trade workshops in technical colleges in Nigeria. Motor vehicle mechanic works is structured to produce competent automobile craftsmen for the technological and industrial development of Nigeria. The National Board for Technical education (2013) explained that the aim is to impart the necessary skills leading to the production of craftsmen, master craftsmen and other skilled workforce who will be enterprising and self-employed. According to Beako (2017) the vision of the government on the graduates of motor vehicle mechanic unit is to establish private motor vehicle enterprises or further their studies after graduation. Sandeep (2014) noted that motor vehicles today are more of complex electronic machines than mechanical machines which are the door lock apparatus which used to be a small mechanical device, has now been replaced by the Electronic Passive Entry System (EPES) which comprised of electronic sensors, controllers, actuators, and advance software algorithms that are much more complex. These resulted in the advancement in the repair and maintenance mode among the craftsmen where motor vehicle diagnosers are introduced to easily identify faults on motor vehicles. Michael (2014) also noted that as vehicle technology and maintenance processes are advancing, the problems facing motor vehicle craftsmen have rather compounded. It is true that the advancement in vehicle technology has led to better comfort and smarter control to use. It has also compounded the skills required by motor vehicle craftsmen for diagnosis and repairs of the motor vehicle. Good governance will be enhanced, as these graduates will become experts in motor vehicle mechanic works and become capable in repairing motor vehicles satisfactorily according to manufacturer's specifications and carry out duties in accordance with the ethics required by the motor vehicle industries through the assistance of the workshop instructors.

Workshop instructors are individuals trained to supervise all the technical or practical activities carried out by trainees and others in the workshop. Also, motor vehicle mechanic refers to team activities

which require that everyone in the workshop should think and act responsibly at all times and in every activity of motor vehicle mechanic industries (Udogu, 2015). These industries are in dire needs to employ capable and competent graduates that will promote the services of these industries. Going by these employment opportunities created by these motor vehicle industries, there will be level play ground for the teeming youths in ensuring good governance that will promote justice, peace and encourage the undergraduates to acquire requisite work skills.

Work skills are the skills required for accomplishment of a specific task. Agada (2014) described technical skills as the knowledge and skills specific to a particular occupation or group of occupation. According to Arul in Beako (2018) work skills implied an understanding of and proficiency in a specific kind of activity, particularly one involving methods, processes, procedures or technical it involves specialized knowledge, analytical ability within that specialty, and facility in the tools and techniques of the specific discipline. Work skills are 'hard skills' related to an organisation or industry. For instance in MVM work, repair or replace wheel bearings, replace or repair components of fuel and ignition system, checking of the fuel injection system and diagnose faults among others are the requisite skills in maintaining and services of modern motor vehicles (Audu, Yusri and Sand, 2013). In this study, work skills refers to the expertness of mechanical engineering students in repairing and maintaining ignition and fuel system of modern motor vehicle with the aim to enhance good governance. These specialized skills and knowledge expose methods, procedures and tools required to service and maintain expertly these ignition and fuel systems of modern motor vehicle making the graduates of motor vehicle mechanic relevant and engaged in meaningful activities that would encourage good governance. Udogu (2015) stated that check the crank sensor using diagnostic tool, perform magnetic sensor testing, inspect and adjust faulty crank position sensor, test and diagnose defective reluctor sensors, record ignition timing using digital multi-meter are the work skills required of motor vehicle mechanic to maintain ignition system in modern motor vehicles, if properly acquired would encourage good governance and negate cultism, piracy, armed robbery out of society. According to Giri (2013) motor vehicles operate with the aid of fuel system where the skills required to maintain such include to carrying out visual inspection of the air mass sensor, test the manifold absolute pressure sensor using multi-meter, check oxygen (lambda) sensor with multi-meter, test the petrol engine for sensors that are in good condition, check pressure sensor and power control module (PCM), remove and install fuel injectors among others would enhanced the existence of good governance.

Good governance is an approach expected by government representatives to adhere strictly to the obligation boldly stated in the oath of allegiance and provide a stable system and comfortable environment using state resources and apparatus within their capacities. It is activity of governing a country or controlling a company or an organization. Bolaji (2015) stated that good governance is an indeterminate term used in the international development literature to describe how public institutions conduct public affairs and manage public resources. Governance is the process of decision making and the process by which decisions are implemented (Wikipedia, 2013). According to Mayder (2013) good governance is an approach to government that is committed to creating a system founded in justice and peace that protects individual human rights and civil liberties. When human right and civil liberties are properly managed and understood, skills and knowledge are acquired in university programmes including motor vehicle mechanic works during training in the institution. These institutions perform the responsibilities of orientating and enlightening individuals considering justice that protects institution and student's rights. These knowledge and skills acquired expose students for check and balances that would bring about good governance among government representatives in the society considering the facts that these graduates will be conscious of their responsibilities and ask constructive questions when the leaders deviate from the right track. But, in Nigeria today, public assets and resources been diverted and mismanaged by the authorities, thereby created insecurity in the country as kidnapping, cultism, armed robbery had been on the increased while good governance is lacking. It is on this basis of the foregoing, the study work skills needed of undergraduates to enhance good governance in Rivers State was investigated.

Statement of the Problem

Good governance mean that processes and institutions produce results that meet the needs of the society while making the best use of resources at their disposal in ensuring efficiency in human capital development, effectively control and rule a country and its people in accordance with the constitutional provisions and make available social amenities to the people. Good governance provides an enabling environment which business opportunities strife and individuals engages in entrepreneurial activities for sustenance of living especially one acquiring work skills. However, governance in Nigeria had created a platform where commercial and entrepreneurial activities had been paralysed, poverty, armed robbery, kidnapping, cultism and examination malpractice had become the order of the day, graduates of academic institutions lacked the work skills to enterprise. Ezenwafor (2016) stated that good governance will see the light of the day if work skills required in repairing and maintaining ignition system, fuel system of modern motor vehicles are exposed to undergraduates in the university, which invariably will in turn engage the youths either through the establishment of motor vehicle mechanic enterprise or be relevant in the world of works. These opportunities will reduce poverty, create employment and entrepreneurial activities, disabuse their mind set from involving in cultism, armed robbery, kidnapping and pave way for good governance in Rivers State. It is on this background, the study work skills needed of undergraduates to enhance good governance in Rivers State was investigated.

Purpose of the Study

The major purpose of this study is to determine the work skills needed of undergraduates to enhance good governance in Rivers State. But, specifically, the study sought to:

1. ascertain work skills needed of undergraduates of motor vehicle mechanic works for the maintenance of ignition system in modern motor vehicle to enhance good governance in Rivers State.
2. find out the work skills needed of undergraduates of motor vehicle mechanic works for the maintenance of fuel system in modern motor vehicle to enhance good governance in Rivers State.

Research Questions

These research questions were posed to guide the study.

1. What are the work skills needed of undergraduates of motor vehicle mechanic works for the maintenance of ignition system in modern motor vehicle to enhance good governance in Rivers State?
2. What are the work skills needed of undergraduates of motor vehicle mechanic works for the maintenance of fuel system in modern motor vehicle to enhance good governance in Rivers State?

Hypotheses

These hypotheses were formulated and tested on 0.05 level of significance.

1. There is no significant difference in the mean response of instructors at vehicle maintenance unit, Mechanical Engineering Workshop, University of Port Harcourt, Choba, Rivers State University, Port Harcourt, University of Education, Rumuelimini on the work skills needed of undergraduates of motor vehicle mechanic works for the maintenance of ignition system in modern motor vehicle to enhance good governance in Rivers State.
2. There is no significant difference in the mean response of instructors at vehicle maintenance unit, Mechanical Engineering Workshop, University of Port Harcourt, Choba, Rivers State University, Port Harcourt and University of Education, Rumuelimini on the work skills needed of undergraduates of motor vehicle mechanic works for the maintenance of fuel system in modern motor vehicle to enhance good governance in Rivers State.

Methodology

The design used for this study was a descriptive survey. The study was conducted in three Government owned universities in Rivers State, Nigeria. These three universities were University of Port Harcourt,

Choba, Rivers State University, Port Harcourt and Ignatius Ajuru University of Education, Rumuelumini, Port Harcourt. The population of the study consist of 29 respondents, which comprises 11 instructors drawn from vehicle maintenance unit, Mechanical Engineering Workshop, University of Port Harcourt, Choba, 10 instructors drawn from vehicle maintenance unit, Mechanical Engineering Workshop, Rivers State University, Port Harcourt and 8 instructors drawn from vehicle maintenance workshop, Technical Education Department, Ignatius Ajuru University of Education, Rumuelimini (Field work, 2018). Two research questions were posed to guide the study while two null hypotheses were tested in the study. Instrument titled 'Work Skills Needed to Enhance Good Governance' (WSNEGG) was developed to elicit information respondents. The instrument was validated by three experts in the field of motor vehicle maintenance and technology. Two from the motor vehicle maintenance works, Honda services, PH and one from the Department of Vocational and Technology Education, Niger Delta University, Wilberforce, Bayelsa State. The questionnaire consisted of two parts. The first part focused on personal data of respondents while the second part made up of 20 items which based on four Point Likert scale response of highly needed, needed rarely, needed and not needed. To determine the reliability coefficient of the instrument, a test retest method conducted on five respondents drawn from the Department of Vocational and Technology Education, Niger Delta University, Bayelsa State who were not part of the population. The result of the test was analysed using Pearson Product Moment Correlation (PPMC). The value of coefficient obtained was 0.94 which implies that the instrument was very reliable and suitable for the study. Out of the 29 copies of questionnaire distributed, all was retrieved, analzed and was used for the study. Mean and standard deviation was used to answer the research questions while the null hypotheses were tested at 0.05 level of significance using the Analysis of Variance (ANOVA) statistical tool. The decision rule for research questions was any item with mean value equal to or greater than 3.50 was accepted while mean value less than 3.50 was rejected. Hence, these hypotheses were needed, when the value of f-calculated is less than the value of f-critical and were rejected when the value of f-calculated is greater than the value of f-critical.

Results

Research Question 1

Table 1 Mean and Standard Deviation of Responses on Work Skills Needed of Undergraduates to Maintain Ignition System

S/N	Items	UNIPORT, Instructors			RSU, Instructors		UOE,			
		Mean	SD	Remark	Mean	SD	Remark	Mean	SD	
1	Retrieve transmission diagnostic trouble codes(DTC)	3.92	1.03	Needed	3.62	1.32	Needed	3.65	1.42	Needed
2	Record and print transmission diagnostic trouble codes.	4.10	0.99	Needed	3.91	1.07	Needed	3.72	1.41	Needed
3	Interpret ignition diagnostic trouble code(DTC).	3.91	1.04	Needed	3.73	1.24	Needed	3.81	1.34	Needed
4	Check the crankshaft (CKP) and camshaft(CMP) sensor and their wiring for damage.	3.54	1.35	Needed	4.12	0.80	Needed	3.94	1.19	Needed
5	Record ignition timing using digital multimeter.	3.62	1.37	Needed	3.94	1.02	Needed	4.03	0.92	Needed
6	Carry out throbble cable inspection and adjustment	4.04	0.98	Needed	3.74	1.22	Needed	3.50	1.52	Needed
7	Check the crank sensor using diagnostic tool.	3.98	1.03	Needed	3.58	1.43	Needed	3.64	1.44	Needed
8	Perform magnetic sensor testing	3.87	1.14	Needed	3.85	1.12	Needed	3.73	1.40	Needed
9	Inspect, adjust faulty crank position sensor.	3.66	1.40	Needed	3.96	0.96	Needed	3.82	1.30	Needed
10	Test and diagnose defective reductor sensor	3.90	1.14	Needed	3.67	1.29	Needed	3.57	1.49	Needed
	Total mean and SD	38.44	11.85		38.12	11.47		37.4	13.43	
	Grand mean and SD	3.84	1.19		3.81	1.15		3.74	1.343	

The data presented in table 1 shows that the mean values ranging from 3.50-4.13 are greater than the criterion mean of 3.50. This implies that the 10-items are accepted as work skills needed of undergraduates of motor vehicle mechanic to maintain ignition system of modern motor vehicle in university mechanical workshops in Rivers State.

Research Question 2

Table 2

Mean and Standard Deviation of Response on Work Skills Needed of Undergraduates to maintain Fuel System

S/N	Items	UNIPORT, Instructors			RSU, Instructors			UOE, Instructors		
		Mean	SD	Remark	Mean	SD	Remark	Mean	SD	Remark
1	Carry out visual inspection of the air mass sensor	4.17	0.82	Needed	3.53	1.45	Needed	3.80	1.39	Needed
2	Test the manifold absolute pressure sensor using multimeter	3.80	1.26	Needed	3.87	1.09	Needed	3.90	1.14	Needed
3	Check oxygen(lambda) sensor with multimeter	3.95	1.02	Needed	4.02	0.90	Needed	4.11	0.86	Needed
4	Test the petrol engine for sensor that are in good condition	3.74	1.30	Needed	3.96	0.93	Needed	3.84	1.36	Needed
5	Check pressure sensor and power control module(pcm)	3.67	1.37	Needed	3.59	1.39	Needed	3.97	1.12	Needed
6	Remove or refit pressure regulator	3.93	1.07	Needed	3.64	1.36	Needed	3.54	1.47	Needed
7	Remove and install fuel injectors	3.58	1.47	Needed	3.77	1.17	Needed	3.59	1.45	Needed
8	Connect the on-board diagnostic scan tool to the data link connector	3.69	1.35	Needed	3.81	1.14	Needed	3.98	0.97	Needed
9	Retrieve fuel system diagnostic trouble code	4.04	0.96	Needed	3.97	0.92	Needed	4.07	0.87	Needed
10	Print and interpret fuel system diagnostic trouble codes	3.85	1.21	Needed	4.10	0.86	Needed	4.13	0.84	Needed
Total mean and SD		38.4	11.8		38.3	11.2		38.94	7	11.4
Grand mean and SD		3.84	1.18		3.83	1.12		3.894	7	1.14

The data displayed on table 2 shows that the mean values ranging from 3.53 to 4.15. These values are greater than the criterion mean of 3.50. This implies that the 10-items are accepted as work skills needed of undergraduates of motor vehicle mechanic to maintain fuel system of modern motor vehicle in university mechanical workshops in Rivers State.

Test of Hypotheses

Table 3

Analysis of Variance (ANOVA) of the Mean Responses of Instructors on the Work skills Needed to Maintain Ignition System of Modern Motor Vehicle.

Variable	Df	Sum of Square	Mean of Square	F-cal	F-cri	Remark
Between Group	2	0.09	0.045			
Within Group	27	24.03	0.89	0.05	3.35	Needed
Total	29	24.12				

The data displayed in table 3 shows the Analysis of Variance (ANOVA) test statistics of respondents rating on technical skills needed of undergraduate of motor vehicle mechanic unit to maintain ignition system in modern motor vehicle. This indicates that the value of f-calculated 0.05 is less than the value of f-critical

3.34 at 0.05 level of significance. Hence, the researcher upheld statistically the hypothesis and concluded that there is no significant difference in the mean responses of motor vehicle lecturers on the work skills needed of undergraduate students of motor vehicle mechanic unit to maintain ignition system in modern motor vehicle in Universities mechanical workshops in Rivers State.

Table 4

Analysis of Variance (ANOVA) of the Mean Responses of Instructors on the Work Skills Needed to maintain Fuel System in Modern Motor Vehicle.

Variable	Df	Mean of square	Mean of square	F-cal	F-crit	Remark
Between Group	2	0.13	0.065			
Within Group	27	25.07	0.93	0.07	3.35	Needed
Total	29	25.20				

The information presented in table 4 shows the Analysis of Variance (ANOVA) test statistics of respondents rating on technical skills needed of undergraduate of motor vehicle mechanic unit to maintain fuel system in modern motor vehicle. This indicates that the value of f-calculated 0.07 is less than the value of f-critical 3.34 at 0.05 level of significance. Hence, the researchers upheld statistically the hypothesis and concluded that there is no significant difference in the mean responses of motor vehicle lecturers on the work skills needed of undergraduates of motor vehicle mechanic to maintain fuel system of modern motor vehicle in Universities mechanical workshops in Rivers State.

Discussion

The finding revealed work skills needed of undergraduate students of motor vehicle mechanic works to maintain ignition system of modern motor vehicles to enhance good governance in Rivers State. The skills include that check the crank sensor using diagnostic tool, perform magnetic sensor testing, inspect and adjust faulty crank position sensor, test and diagnose defective reluctor sensor, record ignition timing using digital multi-meter are the work skills required of motor vehicle mechanic to maintain ignition system in modern motor vehicle. This finding is in line with Sandeep (2014) who noted that motor vehicles today are more of complex electronic machines than mechanical machines such as the door lock apparatus which used to be a small mechanical device, has now been replaced by the Electronic Passive Entry System (EPES) which comprised of electronic sensors, controllers, actuators, and advance software algorithms that are much more complex. The finding also revealed that there is no significant difference in the mean responses of instructors of motor vehicle mechanic on the technical skills needed of undergraduates of motor vehicle mechanic unit to maintain ignition system of modern motor vehicle in university mechanical workshops in Rivers State. The finding also consented with Udogu (2015) which stated that check the crank sensor using diagnostic tool, perform magnetic sensor testing, inspect and adjust faulty crank position sensor, test and diagnose defective reluctor sensors, record ignition timing using digital multi-meter are the work skills required of motor vehicle mechanic to maintain ignition system in modern motor vehicle, if properly acquired would encourage good governance and negate cultism, piracy, arm robbery out of our society.

The findings further revealed 10 work skills needed of undergraduates of motor vehicle mechanic to maintain fuel system of modern motor vehicle in university mechanical engineering workshops to enhance good governance in Rivers State. The work skills include carry out visual inspection of the air mass sensor, test the manifold absolute pressure sensor using multi-meter, check oxygen (lambda) sensor with multi-meter, test the petrol engine for sensors that are in good condition among others. This finding is in agreement with Audu, Yusri and Sandeep (2013) who stated that Motor Vehicle Mechanic work repairs or replaces wheel bearings and components replace or repair components of transmission system, checking of the fuel injection system and diagnose faults will encourage good governance if these skills are properly acquired by learners in the institution. This finding also is in line with Giri (2013) which stated that motor vehicles operate with the aid of fuel system where its skills required to maintain and repair include carry out visual inspection of the air mass sensor, test the manifold absolute pressure sensor using multi-meter,

check oxygen (lambda) sensor with multi-meter, test the petrol engine for sensors that are in good condition, check pressure sensor and power control module (PCM), remove and install fuel injectors among others would be exposed through good governance. The finding further revealed that there is no significant difference in the mean response of instructors on the work skills needed of undergraduates of motor vehicle mechanic to maintain fuel system of modern motor vehicle in university mechanical engineering workshops to enhance good governance in Rivers State.

Conclusion

Skills acquisition in a specific field of study that is relevant, useful in the improvement of entrepreneurial activities needs to be taught in various higher institution across the nation with the aim of assisting in building good governance and engage the graduates of this discipline from identify with cult groups, kidnappers, armed robberies and other social vices. These skills acquired for proper maintenance and services of ignition, fuel systems and other engine components allows the drivers and other motor vehicle users to put on their vehicles easily and used less percentage of fuel content to drive for a long distance. Hence, provides security to the vehicles and saves cost of buying fuel by vehicle users, as such provides an opportunity for good governance to strife in the Nigeria society. It is equally notice that symposium are not organised for workshop instructors with the aim to train them on modern tools and equipment used for practical works, this has resulted in many of them not been abreast with new and modern instruments (sensors, machine diagnosers etc).It is on this premise that technological institutions across the country need to improve on emerging skills development by providing modern tools and equipment to the various university mechanical workshops with the aim to be used in broaden the knowledge of the workshop instructors as well as the learners on the contemporaries issues and skills required in tackling faults related to ignition and fuel system in modern motor vehicles.

Recommendations

Based on the findings, the researchers recommended the following:

1. That the government should ensure regularly supply of modern tools and equipment used in repairing ignition and fuel system of modern motor vehicles to universities mechanical engineering workshops to update the skills of the students,
2. The undergraduates should be practically trained for the period of 18 months in the motor vehicle industries to pave way for better understanding of the work skills needed in repairing ignition and fuel system of modern motor vehicles.
3. The government should ensure training and retraining at both home and abroad the instructors operating in vehicle maintenance unit, mechanical engineering workshops on the application of modern tools and equipment used in maintenance of ignition and fuel system of motor vehicles in universities mechanical engineering workshops with the aims to improve their capacity.

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