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PROFICIENCY SKILLS NEEDED BY TEACHERS FOR OPTIMAL PERFORMANCES IN MOTOR VEHICLE MECHANICS WORK IN TECHNICAL COLLEGES IN ADAMAWA AND TARABA STATES

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Abstract

The main purpose of the study was to determine the proficiency skills needed by teachers for optimal performances in motor vehicle mechanics work in technical colleges in Adamawa and Taraba States. The study was guided by two research questions and two null hypotheses. The study which adopted descriptive survey research design was conducted in Adamawa and Taraba States. The population of the study was 123 respondents comprising 81 MVMW teachers and 42 instructors from all the 21 BEST Centres and Government Science and Technical colleges in Adamawa and Taraba States, Nigeria. There was no sampling as the entire population was used because it was manageable. A structured questionnaire tagged: Proficiency Skills Needs of Motor Vehicle Mechanics Works Teachers Questionnaire (PSNMVMWTQ) was validated by three experts. The Instrument was trial tested in Gombe State and the Cronbach Alpha reliability method was used to test the reliability of the instrument and a 0.84 reliability coefficient was obtained. Data collected for the study was analyzed using Statistical Package for Social Sciences (SPSS) version 27.0. Mean statistics was used to answer the two research questions

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while a t-test was used to test the null hypotheses at a 0.05 level of significance. The findings of the study revealed among others that 35 technical skills were considered needed by MVMW teachers. Similarly, 25 ICT skills were considered as 'needed'. Importantly, there were no significant differences between instructors and MVMW teachers regarding the perceived importance of these skills. It is recommended that to address the technical skills gaps identified, particularly in the use of diagnostic tools and performing necessary repairs, it is recommended that the Technical College Management Board should organize workshops and practical training sessions. These initiatives should emphasize hands-on experience with diagnostic equipment, connecting tools appropriately, and interpreting trouble codes.

Keywords: Proficiency Skills, Teachers, Optimal Performances, Motor Vehicle Mechanics Work, Technical Colleges

INTRODUCTION

Proficiency skills are not just desirable but utterly indispensable for the sustained growth and development of Nigeria's automotive sector, which stands as a linchpin in the nation's economic landscape. Ojo and Omotayo (2018) vividly asserted that proficiency skills serve as the bedrock for ensuring the competence of mechanics and technicians tasked with the intricacy of servicing modern vehicles are achieved without any complications after repairs. In the face of ever-evolving automotive technologies, proficiency in tasks ranging from precise engine diagnostics to intricate electrical systems troubleshooting and adept operation of computerized vehicle management systems becomes non-negotiable. The ability to navigate and master these intricacies is not merely a matter of efficiency but a crucial factor in meeting the burgeoning demands of an automotive landscape characterized by complexity and sophistication (Adeyemi & Afolayan, 2020).

The importance of proficiency skills transcends mere technical competence; it extends to the very fabric of Nigeria's socio-economy. Beyond the immediate implications for vehicle safety and reliability on Nigerian roads, these skills play a role in propelling innovation and enhancing competitiveness within the broader automotive industry. A workforce equipped with the requisite proficiency skills is better poised to embrace and harness emerging technologies, thereby driving forward the boundaries of automotive excellence.

Consequently, investing in the cultivation and enhancement of proficiency skills among motor vehicle mechanics teachers emerges as a strategic imperative, not merely for individual enterprises but for the collective advancement of Nigeria's automotive sector and its pivotal role in the nation's economic trajectory (Adeyemi & Afolayan, 2020).

The proficiency skills of teachers in Motor Vehicle Mechanics Work (MVMW) are crucial in shaping the quality of education imparted in our technical colleges. Adequate proficiency in MVMW among teachers ensures the effective impartation of knowledge and skills to students, ultimately contributing to the development of competent professionals in the automotive industry. According to Olaitan and Adeyemo (2019), proficiency in MVMW teaching requires a deep understanding of automotive technology, including engine mechanics, electrical systems, and diagnostic procedures. Teachers must possess practical experience and expertise in servicing and repairing motor vehicles to effectively demonstrate techniques and guide students through practical exercises. Without proficient teachers, students may lack the necessary skills and knowledge required to meet industry standards and compete in the job market (Onukaogu, 2017).

Furthermore, continuous professional development is essential for teachers to maintain and enhance their proficiency skills in MVMW. As noted by Ogbonna (2020) and Ajayi and Ajayi (2018), attending workshops, seminars, and training programs enables teachers to stay updated with advancements in automotive technology and teaching methodologies. Additionally, collaborative efforts between educational institutions and industry stakeholders facilitate knowledge exchange and skill transfer, further enhancing teachers' proficiency in MVMW. Through these initiatives, teachers can acquire new techniques, integrate ICT tools into their teaching practices, and adapt to evolving industry demands, ensuring that students receive relevant and up-to-date education in motor vehicle mechanics work.

In Nigeria, the demand for skilled motor vehicle mechanics work (MVMW) teachers has increased significantly with the growing emphasis on technical education. However, there exists a pressing need to address the technical skills gap among teachers in this field. According to Ojo and Oluwatayo (2017), many MVMW teachers lack adequate technical competencies, which hampers their ability to effectively impart knowledge to students. These teachers often struggle to keep up with advancements in automotive technology and fail to deliver up-to-date content in line with industry standards.

The integration of Information and Communication Technology (ICT) skills into MVMW teaching has become imperative in today's digital age. Adekomi, Adeyemi, and Adekomi (2018) reported that a significant proportion of MVMW teachers in Nigeria lack basic ICT skills. This deficiency not only affects their ability to incorporate technology into their teaching but also limits their capacity to leverage digital resources for enhanced learning experiences. Without adequate ICT skills, MVMW teachers may struggle to engage students effectively and prepare them for the demands of the modern automotive industry.

To address the technical and ICT skills needs of MVMW teachers, comprehensive training programs and professional development initiatives are essential. Adequate investments in teacher training can help bridge the gap between classroom instruction and industry requirements. As emphasized by Adebisi, Ajayi, and Okubanjo (2019), continuous professional development programs should focus on enhancing teachers' technical competencies in areas such as diagnostics, repair techniques, and emerging automotive technologies. Additionally, targeted ICT training can empower MVMW teachers to integrate digital tools and resources into their teaching practices, thereby enriching the learning experience for students.

Furthermore, collaboration between educational institutions and industry stakeholders is crucial for ensuring that MVMW teachers are equipped with the necessary skills to meet industry demands. By fostering partnerships with automotive companies, technical schools, and professional associations, educators can gain access to real-world expertise, cutting-edge technology, and hands-on training opportunities. Such collaborations can facilitate knowledge exchange, curriculum alignment, and the development of industry-relevant teaching resources.

Optimizing the performance of teachers is crucial for the advancement of education and the overall development of the nation. Adequate training and professional development opportunities are imperative to ensure teachers possess the necessary skills and knowledge to effectively impart knowledge to their students. According to Babalola and Jegede (2017), teacher effectiveness is significantly influenced by continuous professional development programs that enhance pedagogical skills, content knowledge, and classroom management techniques. Additionally, the study highlights the importance of supportive working environments and access to resources for teachers to thrive in their roles. Without adequate support and training, teachers may struggle to meet the diverse

needs of their students and deliver high-quality instruction, ultimately hindering the achievement of educational goals in Nigeria.

The utilization of innovative teaching methods and technology can significantly enhance teachers' optimal performance in Nigeria. According to Adu and Asamoah (2020), integrating technology into teaching practices can improve student engagement, facilitate personalized learning experiences, and increase access to educational resources. However, for teachers to effectively leverage ICT tools in the classroom, they require training and support to develop their digital literacy skills and adapt their pedagogical approaches accordingly. Additionally, collaborative efforts between government agencies, educational institutions, and non-governmental organizations are essential to provide teachers with access to ICT infrastructure and resources. By investing in the professional development of teachers and promoting the integration of technology in education, Nigeria can empower educators to enhance their optimal performance and contribute to the improvement of educational outcomes nationwide.

Statement of the Problem

With the rapid advancements in automotive technology, there is a pressing need for teachers to possess up-to-date technical skills to effectively impart knowledge to students. Furthermore, the integration of Information and Communication Technology (ICT) in automotive diagnostics and repair processes underscores the necessity for teachers to be proficient in ICT skills to keep pace with industry demands and adequately prepare students for the workforce. Thus, the statement of the problem underscores the urgent need to assess and address the technical and ICT skills gap among teachers to ensure optimal performance and quality education delivery in motor vehicle mechanics work.

The broader implications of inadequate technical and ICT skills among teachers in motor vehicle mechanics work could hinder teachers' ability to provide hands-on training and practical demonstrations, essential components of effective technical education. Similarly, the lack of ICT skills may limit teachers' capacity to incorporate modern teaching tools and resources, thereby impacting the quality and relevance of the curriculum delivered to students. Furthermore, without competent teachers equipped with the requisite technical and ICT skills, technical colleges in Adamawa and Taraba States may struggle to produce graduates who meet industry standards and expectations, consequently affecting employability and overall economic development. Hence, addressing the proficiency skills

gap among teachers is not only crucial for the advancement of technical education but also for the socio-economic development of the regions.

Purpose of the Study

The main purpose of the study was to determine the proficiency skills needed by teachers for optimal performances in motor vehicle mechanics work in technical colleges in Adamawa and Taraba States. Specifically, the study sought to identify:

1. Technical skills needs of motor vehicle mechanics work teachers.
2. ICT skills needs of motor vehicle mechanics work teachers.

Research Questions

The following research questions were formulated to guide the focus of this study.

1. What are the technical skills needs of motor vehicle mechanics work teachers?
2. What are the ICT skills needs of motor vehicle mechanics work teachers?

Hypotheses

The following null hypotheses were tested at a 0. 05 level of significance.

1. There is no significant difference in the mean ratings of instructors and motor vehicle mechanics work teachers on skills needs of motor vehicle mechanics work teachers concerning technical skills.

2. There is no significant difference in the mean ratings of instructors and motor vehicle mechanics work teachers on skills needs of motor vehicle mechanics work teachers concerning ICT skills.

METHODS

The research employed a descriptive survey research design, as advocated by Fraenkel, et al. (2019), to allow for comprehensive data collection from a sizable sample, enabling exploration of diverse factors pertinent to the research theme. Given the context, this design was deemed suitable. The study focused on Adamawa and Taraba States in Nigeria, situated in the Northeast geo-political zone. The study population comprised 123 respondents, including 81 Motor Vehicle Mechanics Work (MVMW) teachers and 42 instructors from all 21 BEST Centres and Government Science and Technical Colleges

(GSTCs) in the mentioned states. Due to the manageable population size, the entire population was included, obviating the need for sampling.

Data collection employed a structured questionnaire titled "Proficiency Skills Needed of Motor Vehicle Mechanics Works Teachers Questionnaire (PSNMVMWTQ)," utilizing a 5-point Likert-type scale. Items scoring below 3.50 were deemed "Not needed," while those with scores at or above 3.50 were considered "Needed." The questionnaire underwent validation by three experts, with reliability testing yielding a coefficient of 0.84 via Cronbach's alpha method. Research assistants, trained on study objectives and data collection methods, facilitated data collection. Mean and standard deviation were employed to address research questions, with t-tests utilized to assess null hypotheses at a significance level of 0.05.

RESULTS

Research question 1: What are the technical skills needs of motor vehicle mechanics work teachers?

Table 1: Mean and Standard Deviation of MVMW Instructors and Teachers on the Technical Skills Needs of Teachers

S/N	Items	$N_T = 81$ $\bar{x}_T$	$N_I = 42$ $\bar{x}_I$	$N_{TT} = 123$ $\bar{x}_G$	σ	Remark
Use of a Launch Code Reader Creader Professional 123 Scan Tool in Diagnosing Engine Faults						
1.	Locate the Launch code reader creader professional 123 auto scan tool access point.	4.73	4.71	4.72	0.63	Needed
2.	Connect the Launch code reader creader professional 123 auto scan tool using the appropriate connector for the vehicle.	4.80	4.76	4.79	0.55	Needed
3.	Turn on the vehicle ignition.	4.68	4.64	4.67	0.71	Needed
4.	Turn on the Launch code reader creader professional 123 auto scan tool.	4.63	4.60	4.62	0.96	Needed
5.	Run the Launch code reader creader professional 123 auto scan tool diagnostic programme.	4.81	4.79	4.80	0.54	Needed
6.	Navigate through vehicle engine system to access the diagnostic trouble codes from the vehicle electronic control module.	4.65	4.64	4.65	0.88	Needed
7.	Record your findings for the engine system.	4.68	4.64	4.67	0.71	Needed
8.	Check what the engine system code mean and see if the try fault indicated by the trouble codes need to be corrected before	4.63	4.60	4.62	0.96	Needed

	you clear the codes					
9.	Carryout the repair of the engine system (Adjust spark plugs to current specification, complete engine turn-up, overhaul the fuel pump, set ignition timing and clean & set contact breaker point in distributor)	4.81	4.79	4.80	0.54	Needed
10.	Select the delete code option on the Launch code reader creader professional 123 scan auto tool to clear fault code.	4.73	4.67	4.71	0.67	Needed
11.	Repeat items 3-6 to recheck and reactivate the fault code.	3.88	3.88	3.88	0.44	Needed
12.	Turn off the Launch code reader creader professional 123 auto scan tool and disconnect from the access point.	3.98	3.95	3.97	0.42	Needed
Use of The Second- Generation on Board Diagnostic (Obd2) Scan Tool For Diagnosing Vehicles Emission Control Systems						
13.	Locate the second-generation on board diagnostic (OBD2) auto scan tool access point.	3.98	3.98	3.98	0.33	Needed
14.	Turn on the vehicle ignition	3.88	3.86	3.87	0.51	Needed
15.	Turn on the second-generation on board diagnostic (OBD2) auto scan tool.	3.89	3.83	3.87	0.53	Needed
16.	Run the second-generation on board diagnostic (OBD2) auto scan tool diagnostic programme.	3.93	3.90	3.92	0.27	Needed
17.	Navigate through vehicle emission control system to access the diagnostic trouble codes from the vehicle electronic control module.	4.04	4.02	4.03	0.25	Needed
18.	Record your findings for the emission control system	4.74	4.71	4.73	0.62	Needed
19.	Check what the emission control system code mean and see if the try fault indicated by the trouble codes need to be corrected before you clear the codes.	3.86	3.86	3.86	0.41	Needed
20.	Diagnose and carryout the repair of the emission control system (full compression ratio repair and mixture combustion control)	3.84	3.79	3.82	0.46	Needed
21.	Select the delete code option on the second-generation on board diagnostic (OBD2) auto scan tool to clear fault code.	3.02	3.02	3.02	0.33	Not Needed
22.	Select the delete code option on the second-generation on board diagnostic (OBD2) auto scan tool to clear fault code.	3.84	3.79	3.82	0.46	Needed
23.	Repeat items 3-6 to recheck and reactivate the fault code.	3.83	3.81	3.82	0.44	Needed
24.	Turn off the second-generation on board diagnostic (OBD2) auto scan tool and disconnect from the access point.	3.90	3.90	3.90	0.41	Needed
Use of A Bi-Directional Auto Scan Tool For Diagnosing Vehicle Brake System Faults.						
25.	Record your findings for the brake system	4.67	4.60	4.64	0.77	Needed
26.	Locate the bi-directional auto scan tool access point	4.35	4.31	4.33	1.08	Needed

27.	Connect the bi-directional auto scan tool using the appropriate connector for the vehicle	4.28	4.24	4.27	1.15	Needed
28.	Turn on the vehicle ignition	4.51	4.43	4.48	0.87	Needed
29.	Turn on the bi-directional auto scan tool	4.60	4.55	4.59	0.72	Needed
30.	Run the bi-directional auto scan tool diagnostic programme	4.51	4.48	4.50	0.79	Needed
31.	Record your findings for the brake system	4.48	4.48	4.48	0.94	Needed
32.	Navigate through vehicle brake system to access the diagnostic trouble codes from the vehicle electronic control module.	4.48	4.43	4.46	0.80	Needed
33.	Perform the repair of the brake system	4.63	4.60	4.62	0.65	Needed
34.	Select the delete code option on the bi-directional auto scan tool to clear fault code.	4.54	4.48	4.52	0.78	Needed
35.	Repeat items 3-6 to recheck and reactivate the fault code.	4.44	4.40	4.43	0.94	Needed
36.	Turn off the bi-directional auto scan tool and disconnect from the access point.	3.69	3.67	3.68	0.59	Needed
	Grand Mean			**4.29**	**0.64**	**Needed**

KEY: $\bar{x}_T$ *= Mean of Teacher;* $\bar{x}_I$ *= Mean of Instructors,* $\bar{x}_G$ *= Grand Mean Response of Respondents;* σ *= Standard Deviation of Respondents;* N_T *= Number of Teachers;* N_I *= Number of Instructors;* N_{TT} *= Total Number of Respondents; HN= Highly Needed; NN = Not Needed*

Table 1 identified the technical skills needs of motor vehicle mechanics work (MVMW) teachers, and the results are presented in Table 2. The items in the table were clustered into three that is Launch Code Reader Creader Professional 123, Second-Generation On Board Diagnostic (OBD2) Scan Tool, and Bi-Directional Auto Scan Tool for diagnosing engine, emission control, and brake system faults, respectively. Across all items, respondents consistently rated the technical skills as "Needed," with mean values ranging from 3.68 to 4.80. The standard deviations of ranging from 0.59 and 1.15 indicate a relatively consistent level of agreement among respondents regarding the technical skills needed. The grand mean of 4.29 indicate that skills such as using diagnostic tools to locate access points, connecting tools appropriately, running diagnostic programs, recording findings, interpreting trouble codes, and performing necessary repairs were technical skills needed by MVMW teachers.

Research question 2: What are the ICT skills needs of motor vehicle mechanics work teachers?

Table 2: Mean and Standard Deviation of MVMW Instructors and Teachers on the ICT Skills Needs of Teachers

S/N	Items	$N_T = 81$ $\bar{x}_T$	$N_I = 42$ $\bar{x}_I$	$N_{TT} = 123$ $\bar{x}_G$	σ	Remark
PowerPoint competencies						
1.	Copy web text, Multimedia into power point environment.	4.63	4.60	4.62	0.68	Needed
2.	Organize tables and charts into slides.	4.43	4.40	4.42	0.93	Needed
3.	Use of multimedia portfolio.	4.43	4.40	4.42	1.06	Needed
4.	They know how to use slide layout.	4.62	4.60	4.61	0.69	Needed
5.	The use of task pane.	4.56	4.55	4.55	0.89	Needed
6.	They can use transition	4.46	4.43	4.45	0.82	Needed
7.	They can manipulate power point viewer.	4.36	4.33	4.35	1.10	Needed
8.	The use of slide master out results.	4.57	4.55	4.56	0.76	Needed
Computer-aided design (CAD) competencies						
9.	Use layers and template to create drawing.	4.46	4.40	4.44	0.89	Needed
10.	Interacting with the user interface.	4.44	4.43	4.44	0.88	Needed
11.	Format data: font, size, color, and style.	4.49	4.45	4.48	0.90	Needed
12.	Add 2D and 3D design modeling.	4.54	4.52	4.54	0.79	Needed
13.	Draw curves, lines and circle.	4.44	4.40	4.43	0.92	Needed
14.	The use of finite element tools.	4.46	4.38	4.43	0.93	Needed
15.	They make use of pick tools	4.49	4.45	4.48	0.78	Needed
16.	Making outline of text, numbers and object.	4.63	4.60	4.62	0.68	Needed
17.	Rotate and skewing of object.	3.85	3.86	3.85	0.40	Needed
18.	Integrate the use of transparent effect on object.	3.72	3.71	3.72	0.50	Needed
19.	Manipulate and filling of object.	3.77	3.71	3.75	0.51	Needed
	Use of the Internet					Needed
20.	Understanding of web browsing applications.	3.74	3.71	3.73	0.53	Needed
21.	Navigating through different Websites.	3.74	3.69	3.72	0.52	Needed
22.	Download files and applications	3.83	3.81	3.82	0.44	Needed
23.	Sending emails and file transfer.	3.80	3.81	3.80	0.49	Needed
24.	Distance education, education knowledge and understanding of online learning tools	3.75	3.71	3.74	0.48	Needed
25.	Understanding of web browsing applications	3.88	3.86	3.87	0.50	Needed
	Grand Mean			**4.23**	**0.72**	**Needed**

KEY: $\bar{x}_T$ *= Mean of Teacher;* $\bar{x}_I$ *= Mean of Instructors,* $\bar{x}_G$ *= Grand Mean Response of Respondents;* σ *= Standard Deviation of Respondents;* N_T *= Number of Teachers;* N_I *= Number of Instructors;* N_{TT} *= Total Number of Respondents; HN= Highly Needed; NN = Not Needed*

Table 2 presents the ICT skills needs of motor vehicle mechanics work teachers. The items in the table were clustered into three clusters that is PowerPoint, computer-aided design (CAD), and internet-related skills, respectively. The respondents expressed that the MVMW teacher needed all the items identified as ICT skills with mean values which range

from 3.72 to 4.62. The associated standard deviation also ranges from 0.44 and 1.10 respectively. The grand mean of 4.23 indicates that the MVWM teachers needed PowerPoint competencies which include the ability to incorporate web text and multimedia, organize tables and charts, use multimedia portfolios, and manipulate PowerPoint features. Similarly, in computer-aided design (CAD) competencies include skills such as using layers and templates, formatting data, and incorporating 2D and 3D design modeling. Additionally, internet-related skills, such as understanding web browsing applications and utilizing online learning tools, are deemed highly necessary.

Hypothesis 1: There is no significant difference in the mean ratings of instructors and motor vehicle mechanics work teachers on skills needs of motor vehicle mechanics work teachers with respect to technical skills.

Table 3: t-test Result on the Significant Difference between the Mean Responses of the Respondents on the Technical Skills Needs of Teachers

Respondents	N	Mean	Σ	df	t	P – value	Remark
Teachers	81	4.30	0.46				
				121	0.36	0.72	Not Significant
Instructors	42	4.27	0.49				

P >0.05 N= Number of respondents, **σ** = Standard Deviation

Table 3 shows the t-test analysis conducted to evaluate the hypothesis regarding the difference in mean ratings between motor vehicle mechanics work (MVMW) teachers and instructors on technical skills need revealed a p-value of 0.72, which exceeds the 0.05 level of significance. Hence, there is no significant difference in the mean ratings of instructors and motor vehicle mechanics work teachers on skills needs of motor vehicle mechanics work teachers with respect to technical skills.

Hypothesis 4: There is no significant difference in the mean ratings of instructors and motor vehicle mechanics work teachers on skills needs of motor vehicle mechanics work teachers with respect to ICT skills.

Table 4: t-test Result on the Significant Difference between the Mean Responses of the Respondents on the ICT Skills Needs of Teachers

Respondents	N	Mean	σ	df	t	P – value	Remark
Teachers	81	4.24	0.57				
				121	0.26	0.80	Not Significant
Instructors	42	4.22	0.58				

P >0.05 N= Number of respondents, **σ** = Standard Deviation

Table 4 shows the t-test analysis conducted to assess Hypothesis 4, examining the difference in mean ratings between motor vehicle mechanics work (MVMW) teachers and instructors on ICT skills needs, yielding a p-value of 0.80, which is greater than the 0.05 level of significance. Hence, there is no significant difference in the mean ratings of instructors and motor vehicle mechanics work teachers on skills needs of motor vehicle mechanics work teachers with respect to ICT skills.

Findings of the Study

The following are the major findings of the study based on the results presented:

1. 35 technical skills were considered needed by MVMW teachers. The corresponding hypothesis revealed that there was no significant difference in the mean ratings of instructors and motor vehicle mechanics work teachers on skills needs of motor vehicle mechanics work teachers with respect to technical skills.
2. 25 ICT skills were considered as 'needed'. The associated hypothesis revealed that there was no significant difference in the mean ratings of instructors and motor vehicle mechanics work teachers on skills needs of motor vehicle mechanics work teachers with respect to ICT skills.

DISCUSSION

The second revealed that the technical skills needed by MVMW teachers include skills such as Use of Launch code reader creader professional 123 scan tool in diagnosing engine faults such as run auto scan tool diagnostic program, carryout the repair of the engine system (Adjust spark plugs to current specification, complete engine turn-up, overhaul the fuel pump, set ignition timing and clean & set contact breaker point in distributor),using diagnostic tools to locate access points, connecting tools appropriately,

recording findings, interpreting trouble codes, and performing necessary repairs; use of the second generation on board diagnostic(obd2) scan tool for diagnosing vehicle emission control systems such as recording findings for the emission control system and use of bi-directional auto san tool for diagnosing vehicle brake system faults such as record findings for the brake system, turn on the bi-directional auto scan tool, perform the repairs of the brake system and select the delete code option on the bi-directional auto scan tool to clear faults. The corresponding hypothesis revealed that there was no significant difference in the mean ratings of instructors and motor vehicle mechanics work teachers on skills needs of motor vehicle mechanics work teachers with respect to technical skills.

These technical skills are crucial in the context of automotive technology education, aligning with broader perspectives on the importance of practical, hands-on skills in technical education across Nigeria. Okafor (2017) emphasizes the significance of hands-on skills and the utilization of diagnostic tools, highlighting their direct applicability in real-world scenarios. The study's emphasis on interpreting diagnostic results aligns with Clare (2014) assertion that accurate interpretation is vital for effective troubleshooting and repair processes in automotive technology. Furthermore, Adeyinka (2018) asserted that the identified technical skills resonate with the overarching principles of skill-based training advocated in Nigerian technical and vocational education. Adeyinka further stated the importance of the specified technical skills for MVMW teachers, emphasize their relevance and applicability in the broader context of the job market.

The findings of the study revealed that The ICT skills needed by MVWM teachers include PowerPoint competencies which include the ability to incorporate web text and multimedia, organize tables and charts, use multimedia portfolios, and manipulate PowerPoint features; computer-aided design (CAD) competencies include skills such as using layers and templates, formatting data, and incorporating 2D and 3D design modeling; use of internet-related skills, such as understanding web browsing applications, download files, sending emails and file transfer applications and utilizing online learning tools, are deemed highly necessary. The corresponding hypothesis revealed that there was no significant difference in the mean ratings of instructors and motor vehicle mechanics work teachers on skills needs of motor vehicle mechanics work teachers with respect to ICT skills. These findings are in harmony with broader perspectives on technology integration in education in Nigeria. Abdullahi (2014) stress the importance of teachers' proficiency in multimedia applications, emphasizing its role in enhancing the teaching and learning

experience. Additionally, Xu and Quaddus, (2013) underscore the relevance of incorporating 2D and 3D design modeling in technical education. The study's findings, supported by these references, underscore the imperative for MVMW teachers to possess a diverse range of ICT competencies to not only keep pace with technological advancements but also to enrich and optimize their instructional practices.

CONCLUSION

In conclusion, the study underscores the pressing importance of addressing the proficiency skills needed by teachers for optimal performances in motor vehicle mechanics work in technical colleges in Adamawa and Taraba States. The rapid evolution of technology in the automotive industry necessitates constant updates in knowledge and skills among teachers to effectively prepare students for the dynamically changing world of work. The identified skills gaps, particularly in the areas of technical and ICT skills, highlight the critical need for targeted competency retraining programs for motor vehicle mechanics teachers. Bridging these gaps is essential not only to meet the demands of the automotive industry but also to address the issue of unemployment by ensuring that graduates are adequately equipped with the skills required for meaningful employment in Adamawa and Taraba States.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. To address the technical skills gaps identified, particularly in the use of diagnostic tools and performing necessary repairs, it is recommended that Technical College Management Board should organize workshops and practical training sessions. These initiatives should emphasize hands-on experience with diagnostic equipment, connecting tools appropriately, and interpreting trouble codes.
2. Higher institutions of learning where automobile teachers and other technical related teachers are being trained should be retrained frequently on the use of ICTs so as to assist in the integration and utilization ICTs in education.

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