Automobile Starting and Lighting System Maintenance Training Manual for Effective Learning of Motor Vehicle Mechanics Work in Technical Colleges

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Abstract

The purpose of this study is to develop automobile starting and lighting system maintenance training manual for technical college students. Research and Development (R and D) design was adopted for the study. The population of the study is 348, comprising of 76 auto-mechanics teachers, 36 automobile supervisors and 237 students from all the technical colleges in North-Western States of Nigeria. There was no sample for the study; however, purposive sample was used for the students used for trial testing. Six research questions and a null hypothesis guided the study. The instruments for data collection are; Auto-Electricity Training Manual Questionnaire (ATMQ), Auto-Electricity Psychomotor Test (APT) and Auto-Electricity Rating Scale (ARS). The ATMQ, APT and ARS were subjected to face validation by five experts from the University, Technical Colleges and the Automobile Industry. The ATMQ was trial tested on students of Government Technical College Minna and Automobile Supervisors in automobile companies in Minna to establish its reliability. Cronbach Alpha was used to establish the reliability of ATMQ, sections B, C, D, E and F yielded coefficient of 0.72, 0.81, 0.76, 0.78 and 0.73 respectively. Kendall's coefficient of concordance was used to establish the internal consistency of APT and yielded coefficient of 0.75. Data were analyzed using mean and standard deviation, while ANOVA was used to test the hypothesis which yielded a coefficient of 0.044 at 0.05 level of significance. The study developed training manual for automobile starting and lighting system with pictorial illustrations for technical colleges. The use of automobile starting and lighting system of training manual is therefore recommended for practical skills training in technical colleges, so as to achieve their objectives.

Keyword: Automobile, Starting, Lighting System, Maintenance, Training Manual, Technical College

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Received: 2015/01/30

Accepted: 2015/11/25

DOI: http://dx.doi.org/10.4314/njtr.v10i2.9