INSTRUCTIONAL AUTOMOTIVE ELECTRICAL SYSTEMS DEMONSTRATION BOARD: A TECHNICAL FEASIBILITY STUDY

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ABSTRACT

This feasibility study sought to design, construct, test, and revise an Instructional Automotive Electrical Systems Demonstration Board to help meet the urgent need of the Pagla-um State College-Alijis Campus, Bacolod City, for functional instructional equipment in Automotive Technology.

This demonstration board or trainer is a modification of the design used for skills training in Automotive Electricity at the Skills Center of the National Manpower and Youth Council, Taguig, Metro Manila. It consists mostly of electrical parts with a minimum of wooden parts. The trainer constructed using locally available materials costs ₱3,765.00, while its commercial counterpart costs ₱9,000.00. The difference of ₱5,235.00 represents savings for the school and the government. It took twelve working days to finish the trainer.

This seminar paper includes the design, construction, and try-out procedure as well as safety precautions in the use of the training equipment.

The findings of the study show that the trainer can perform various experiments and can be used in selected instructional activities in Automotive Electricity.

On the basis of the findings, the trainer could demonstrate the standard functions of the automotive electrical systems, namely: 1) Lighting, 2) Horn, 3) Stop Light, and 4) Signal systems.

The trainer could be designed and constructed by automotive technology students and instructors out of locally available materials. It is economical to construct due to availability of local materials found in various automotive servicing shops. It could also be constructed out of junks found in Automotive Technology shops of most technical schools.

The finished trainer is equivalent to the standard electrical components found in cars and can provide an ideal means of instruction and training in all aspects of automotive electrical systems. These components are so assembled in a manner that the whole operation of the trainer is within the comprehension of an average student. Furthermore, it is efficient and effective enough for the acquisition of skills in automotive electricity by technician students.

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INTRODUCTION

This chapter contains the background and justification of the study, the objectives of the study, and the scope and delimitation.

> Technological innovation is implemented and adopted through a serious of phases. Someone first has an idea; if it is good, the idea goes through a technical problem-solving stage before advancing to design and development. Finally, if it fills a significant social need, the new product is utilized and diffused throughout the market.
>
> Edward B. Roberts and
> Alan L. Frobman (1982:95)

A. Background and Justification of the Study

The Philippines, like most developing countries, has a shortage of capital, lack of trained manpower for technological development, and inadequate developmental resources. Most developing countries likewise have an over abundance of manpower relative to other resources, and the problem is one of training people for new skills and in new ways which will contribute to the social and economic development of the country. The training, however, must be done in an expeditious, cost effective manner. (Lahren: 1982:2).

The increasing demands for technicians would mean substantial investments on the part of both the