

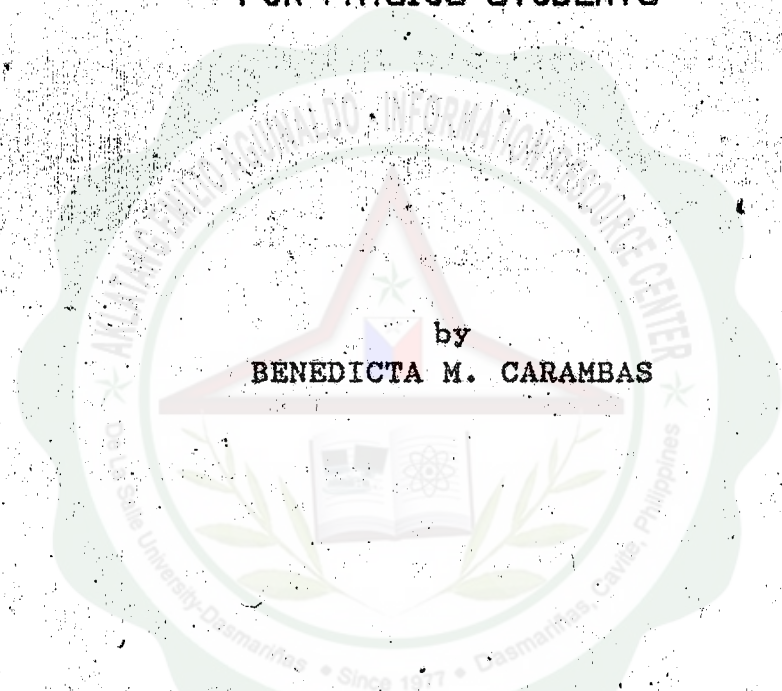
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DESIGN, CONSTRUCTION AND TESTING
OF AN EDUCATIONAL COMPUTER SYSTEM
FOR PHYSICS STUDENTS



by
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A dissertation paper
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ABSTRACT

Learning will be more impressive and interesting if instruction in the classroom and in the laboratory can be easily assimilated and internalized. Concretized ideas and principles will ultimately lead to the attainment of the goal.

This study attempts at designing and constructing a simple, low cost, concrete teaching aid for computer and Physics students. In order to facilitate verbal communication, modules, which are classified by the researcher as semi-concrete and abstract teaching aids, are developed. This is to supplement and/or complement the former.

Sub-problems:

1. What are the basic elements of organization or stages of a simple computer system?
2. How do they work as a system with precision, harmony and synchrony?
3. How do we communicate to a computer an

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instruction or a program?

The housing unit justifies the existence of a concrete teaching aid. It affords all parts of the components to be clearly shown, especially the dorsal sides where their wirings are connected to the W bus. These can be seen by tilting the frames to a little bit more than 90° from the horizon or their normal positions.

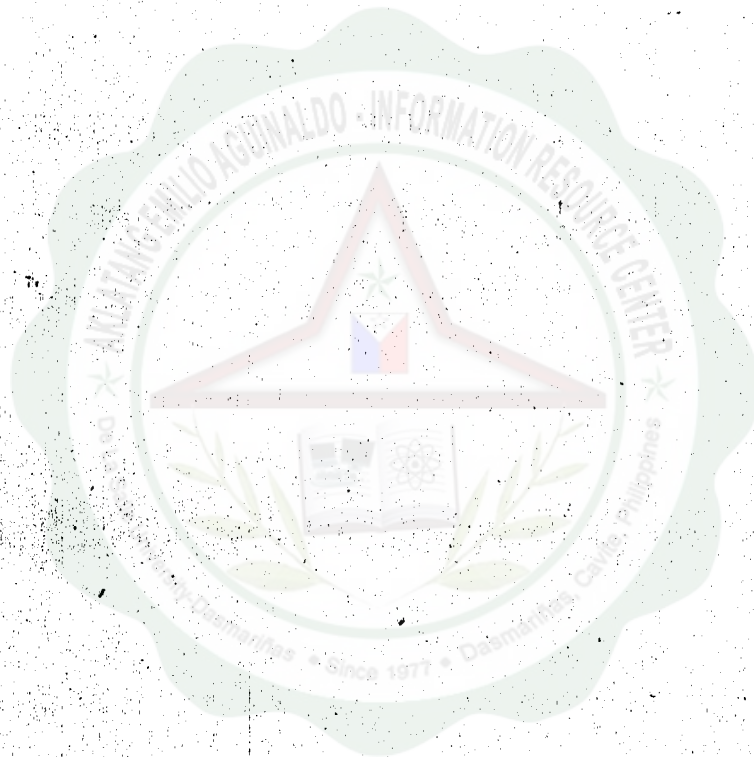
Mastery learning technique is considered by breaking some difficult subject matters into several simple components as manifested in the different modules so as to hasten the learning of the same. They show and explain how, when, where and why the stages work as a system; that is, they function singly or collectively in a system with precision, harmony and synchrony.

The cost, durability and utility are analyzed and synthesized in order to justify its worth or relevance as a teaching aid, has passed the tests for its adoptability: (1) almost 100% concrete teaching aid, (2) simple and easy to construct and (3) low-cost one.

It is recommended that the improvisation be further

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improved for the benefit of our educational institutions for computer and Physics instructions. And, in order to preserve its usefulness as such, handling and operating instructions must be securely placed at the top of its housing unit.



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