

Thesis Title : Developing Instructional Modules on
Experimentation on Logic-Gates
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ABSTRACT

The purpose of this research was to develop instructional modules on the experimentation on Logic Gate for the course EN-339 entitled "Practical Digital Circuit" which was offered in the B.E 2524 Vocational Curriculum of the Ministry of Education.

The research instruments were three instructional modules on And Gates, Or gates and Not Gates, and Nand Gates and Nor Gates. After being developed these three modules were then put into experiment process for an efficiency analysis at Ubonrachathanee Technical College with the sample group of 30 students from Electronics Department who had not taken the course EN-339 before. The experiment was divided into 3 steps. The first experiment was operated with one student in order to make an improvement of the first draft, the second experiment with 6 students to make the second improvement, and finally the third one with the 23 students. The data collected from the experiments with all 30 students were used for the modules efficiency analysis.

The result of the research showed on efficiency level of 91.94/92.93 in the module on And Gate, 93.04/93.47 in the module on Or Gate and Not Gate, and 94.49/94.13 in the one on Nand Gate and Nor Gate, the overall everage efficiency level of these modules was 93.15/93.50 which was higher than the 85/85 criterion.