
Research on the Norton Theorem's Independent Experiment Model Applying the DCAC Lab

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Abstract

This paper explores the application of the Norton Theorem in the DCAC Lab to study the Independent Experiment Model. The conceptual structure of this study is based on the DET10013 Electrical Technology subject. Students in semester 1 are required to take this subject, as it is mandatory for all students in the Electrical Engineering Department (JKE). The lecturer discusses the specifications for performance evaluation, encourages students to engage in self-directed experimentation, and explains the procedures for applying the appropriate instruments and metres. Subsequently, the students autonomously devise the equipment for the experiment and choose them accordingly to meet the required standards. The students participated in practical activities that included measuring actual quantities, constructing their experimental techniques, and they were reporting experimental data, and utilising sophisticated circuit simulation. Additionally, they can build their circuits within the classroom setting and utilise them as components of an experimental model. Experimental proof confirms that using a self-directed experimental teaching method effectively increases students' interest, improves their basic experimental skills, develops their overall experimental aptitude and innovative experimental abilities, and ultimately increases the quality of subsequent related experimental courses.

Keywords : *Norton Theorem, DCAC Lab, Norton Current (IN), Norton Resistance (RN).*
