The Effectiveness of Implementing a Four-Station Industrial Automation Control Kit Trainer in Practical Learning Programmable Logic Controllers in D4 Electrical Engineering

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ABSTRACT

The background to this research is that the D4 Electrical Engineering Study Program does not yet have a miniature industrial process trainer kit in the form of industrial automation control with up to 4 stations for practical learning of Programmable Logic Controllers (PLC). The aim of this research is to determine the effectiveness of implementing a four-station industrial automation control trainer kit product in PLC practical learning in the D4 Electrical Engineering Study Program.

The trial design used in this research was a quasi experimental design in the form of a pretest-posttest nonequivalent control group design. The subjects of this research were students of the D4 Electrical Engineering Study Program, Vocational Faculty, Yogyakarta State University, with classes B1 and C1 as experimental classes, while classes B2 and C2 as control classes. Data collection techniques used are observation and tests, using instruments in the form of observation sheets, and test questions. The data obtained were analyzed using the t test, but it is necessary to test the requirements for using the t test first. The mandatory output of this research is that in 2023 articles will be registered in the national journal Sinta 2, namely the Indonesian Education Journal, while additional outputs will be articles approved for publication in the proceedings of the 2023 Scopus Ice-elinvo Indexed international seminar. The Technology Readiness Level targeted in this research is 4 .

The results of the study showed that there was no significant difference in the mean pretest scores between experimental class and control class students. Research is still continuing to find the effectiveness of using a four-station industrial automation control trainer kit in learning Programmable Logic Controllers Practice in D4 Electrical Engineering.

Kata Kunci: *trainer kit, industrial automation, station, PLC*