Design-Based Learning as Medium STEM Development Among Students of Ungku Omar Polytechnic

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Abstract

STEM development emphasizes the concept guided by the 4C components which are communication, collaboration, creativity, and critical thinking as contained in 21st-century learning (PAK-21) as well as higher-level thinking skills (KBAT). Design-based learning is an effort to ensure the strengthening of STEM Education initiatives. The effort to implement this competition can produce students who can create, logical thinking, use technology, solve problems, and create ideas or something new through integrated learning that includes STEM that applies the real-world context. Therefore, this competition will be the symbolic identity of the logo and tagline of STEM concept awareness. That, STEM education can produce human capital skilled in the field of technology. Through STEM education, the young generation can be creative and innovative and produce people who have the potential to create interesting projects that can compete. This study involved a total of 110 respondents consisting of STEM Club students, semester 1, 2, and 3 students at Ungku Omar Polytechnic. This competition focuses on cognitive, psychomotor, and affective development among participants. In this competition, students are given theallowedight of their talent and ability in producing a STEM Logo and Tagline. The students should provide a rationale for the design of logos and symbols and colours used based on STEM concepts and submitted online to be evaluated at the polytechnic level. This STEM education approach can realize the aspiration of becoming a developed country through quality resources to produce creative and innovative human capital in the future.

Keywords**:** *STEM education; Design-Based Learning; Logical Thinking*

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