

Gamified Plant Mystery Box Design as an Implementation of Meaningful Learning to Improve Green Affective in Students at SMPN 1 Warureja Tegal

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Abstrak

The lack of environmental awareness and concern among students poses a significant challenge in the implementation of the school greening program at SMPN 1 Warureja, Tegal—an initiative that aligns with the institution's long-term vision. Conventional planting activities, which tend to be instructive in nature, have been insufficient in fostering meaningful emotional engagement among students. This study aims to develop an innovative gamified educational medium, *Mystery Plant Box*, designed to facilitate meaningful learning experiences and nurture *green affective*—students' environmentally responsible attitudes and behaviors. In this approach, students are tasked with identifying plant types based on randomly distributed seeds, with the species only becoming apparent upon successful cultivation. Employing the design thinking methodology, the design process follows five stages: empathize, define, ideate, prototype, and test. The implementation of the *Mystery Plant Box* demonstrated a positive impact by enhancing students' curiosity, sense of care, and active participation in environmental greening efforts. This medium effectively promotes affective engagement and environmental responsibility enjoyably and intuitively, underscoring the promising role of gamification in advancing environmental education in schools.

Kata Kunci : *Gamification, Meaningful Learning, Environmentally Affective Engagement, Mystery Box Media*