ABSTRACT

Attention Deficit Hyperactivity Disorder (ADHD) is a neurobehavioral disorder affecting students' ability to maintain focus, control impulsivity, and complete tasks. The high prevalence of ADHD in Indonesia highlights the need for innovative solutions to enhance students' learning focus. This study develops STUDEO, a web-based learning application that utilizes Artificial Intelligence (AI) to detect students' real-time focus levels and personalize learning methods accordingly. The research methodology includes surveys of 100 students and parents, interviews with educational psychologists, and literature reviews. Findings indicate that AI-driven facial expression detection effectively identifies boredom and stress, enabling more adaptive learning strategies. STUDEO incorporates key features such as Personalized Focus Mode, Adaptive Pomodoro Timer, Task Scheduler, Gamification, and Mandala Art Jam Session, which have been shown to improve concentration and reduce impulsivity. Initial trials with 10 students demonstrated that the AI system accurately adjusts study durations and break intervals based on individual needs. This research concludes that STUDEO is an inclusive and adaptive AI-powered solution that enhances learning experiences for students with ADHD.

Keywords: ADHD, Artificial Intelligence, Learning Application, Study Focus, Mandala Art Therapy.